

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

1908

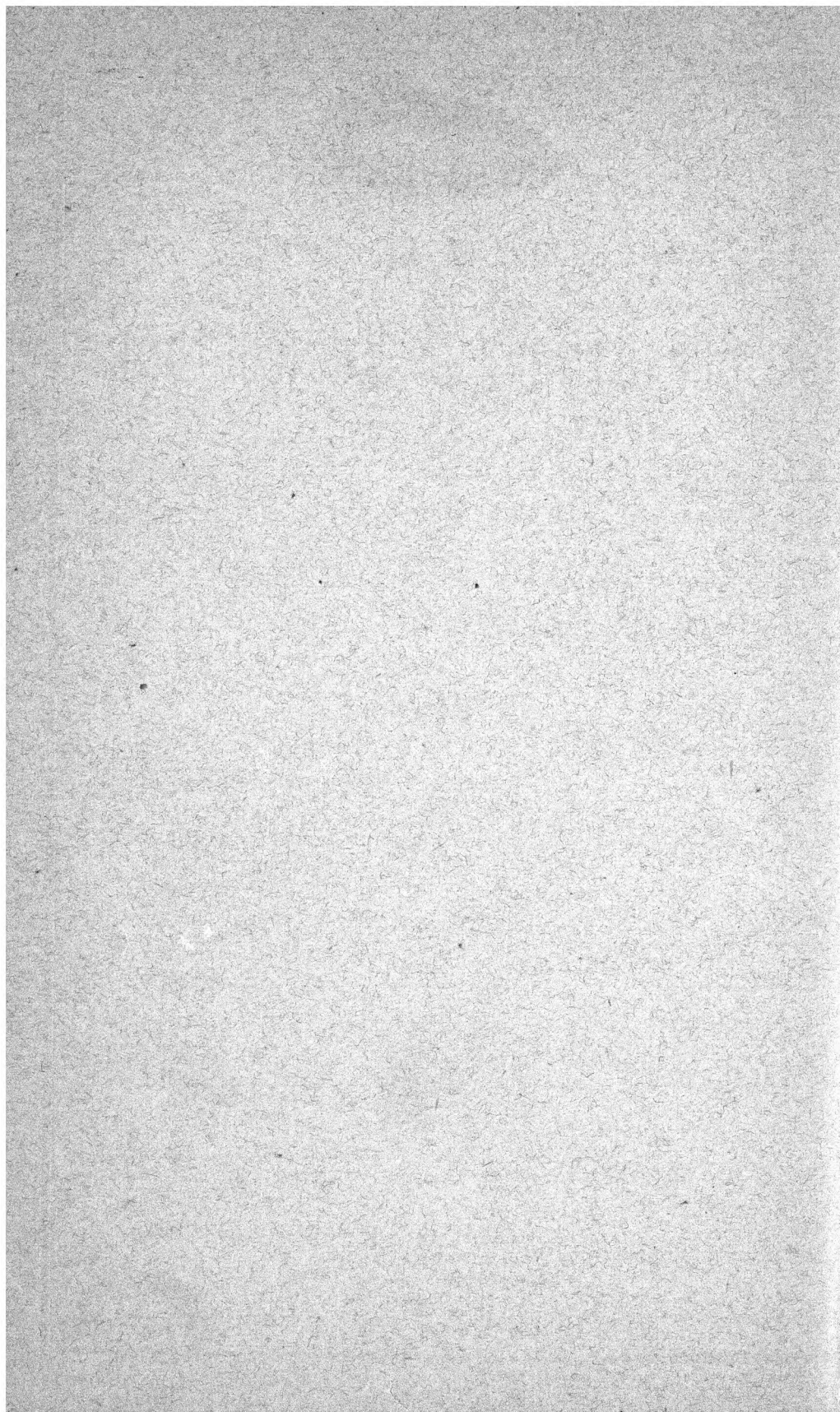
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EDMONTON:

JAS. E. RICHARDS, GOVERNMENT PRINTER

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DEPARTMENT OF AGRICULTURE,
EDMONTON, January 30th, 1910.

To His Honour

GEORGE HEDLEY VICARS BULYEA,
Lieutenant Governor of the Province of Alberta.

SIR —

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1908.

I have the honour to be, Sir,

Your obedient servant,

W. T. FINLAY,
Minister of Agriculture.

REPORT
OF THE
DEPARTMENT OF AGRICULTURE FOR 1908.

DEPARTMENT OF AGRICULTURE,
EDMONTON, January 28th, 1910.

HON. W. T. FINLAY, ESQ.,
Minister of Agriculture.

SIR,—I have the honour to submit herewith a report covering the work of the various branches of the Department of Agriculture for the year 1908. For convenience the report is arranged as follows:

1. Report of the Deputy Minister.
2. Report of the Dairy Commissioner.
3. Report of the Chief Inspector of Noxious Weeds.
4. Report of the Game and Fire Guardian.
5. Report of the Poultry Superintendent.
6. Report of the Recorder of Brands.
7. Report of the Superintendent of Fairs and Institutes.
8. Report of the Live Stock Commissioner.
9. Report of the Provincial Health Officer.
10. Report of the Sanitary Engineer.
11. Report of the Director of the Laboratory.
12. Appendices—
 - a*—Report of the Alberta Horse Breeders' Association.
 - b*—Report of the Cattle Breeders' Association.
 - c*—Report of the Swine Breeders' Association.
 - d*—Report of the Sheep Breeders' Association.
 - e*—Report of the Alberta Natural History Society.

I have the honour to be, Sir,

Your obedient servant,

GEO. HARCOURT,
Deputy Minister of Agriculture.

1.—REPORT OF THE DEPUTY MINISTER.

SIR,—The general work of the Department, aside from that of the various branches, covers such a wide range that it is somewhat difficult to make a classification under which all the work may be grouped as some of it is closely related to that carried on by the branches and yet sufficiently different to be really outside the work of the branch. For convenience in dealing with the general work of the Department it is thought best to group it under the following heads:

- I.—Live Stock.
- II.—Pork Commission.
- III.—Crops.
- IV.—Seed Grain.
- V.—Immigration and Colonization.
- VI.—Museum.
- VII.—Fruit Experimental Stations.
- VIII.—Vital Statistics.
- IX.—Provincial Seed Fair.
- X.—Office Work and Organization.

I.—LIVE STOCK.

The winter of 1907–8 was a most favourable one for stock, with the result that stock came through the winter in excellent condition. Generally speaking a much larger percentage of the increase was saved than was the case in a number of previous years. I am also pleased to note that there was a very much larger number of cattle feeding for spring delivery than ever before.

The health of stock throughout the province during the year has been remarkably good. The officers of the Dominion veterinary service have been carrying out their system of inspection and disinfection for mange and have been keeping a sharp eye on all other contagious diseases wherever an outbreak has occurred.

The work of the live stock associations has been carried out as usual, with the result that quite a large number of animals were sold at the bull sale at Calgary, in connection with which a fat stock show was held.

Acting on the recommendation made by the Beef Commission in its report that a live stock commissioner be appointed, whose duty it would be to assist farmers in marketing their stock and to otherwise advance the live stock industry, Mr. W. F. Stevens was appointed in May a live stock commissioner for this purpose. Mr. Stevens has spent the greater part of his time in the country gaining a general knowledge of conditions, meeting breeders and feeders, interviewing railway officials, buyers and shippers of live stock and in every way possible endeavouring to develop the live stock industry of the province.

Where individual farmers had not sufficient stock for a car load he has been able to get them to unite their shipments, loading cars together, and thus obtaining a market for their animals where otherwise there would have been no sale. In a number of cases

where farmers refused to sell to buyers at ridiculously low prices and the cattle buyers threatened to leave their animals untaken if their prices were not accepted, and in other cases where the animals were actually left on the feeder's hands, the live stock commissioner has been able to find a market for these animals,—frequently at better prices than were originally offered. Where large shippers failed to secure cars as promptly as desired, the live stock commissioner took the matter up with the railway authorities and was always able to secure cars for them. His whole time has been largely devoted to looking after the market end of the industry. His services have been of the greatest assistance to the ranchers of the province and fully justified the Government in every way for making the appointment. A full account of the work of the live stock commissioner will be found in another portion of this report.

ENROLMENT OF STALLIONS.

The provisions of The Horse Breeders' Ordinance require the owner of every stallion who keeps his horse for profit or gain to have him enrolled in the books of the Department. If the horse is of pure breeding and the owner can produce a pedigree certificate issued by a society recognized by the Minister of Agriculture, a certificate of enrolment showing that his horse is pure bred is sent to him. When such pedigree certificate cannot be produced then his horse is enrolled as a grade, no matter what claims are made by the owner. A copy of the certificate of enrolment has to be posted on the inside of every stable door where the horse stands regularly for service, and must also be contained in all advertising matter. This protects farmers and others from unscrupulous claims of some stallion owners who say that their horses are pure bred when they are not. A number of certificates that have been sent to the Department for examination during the past year have been found to be valueless, being issued by societies that are no longer recognized. Grade certificates only are issued in cases of this kind.

The following is a summary of the stallions that have been enrolled during the past and preceding years:

ENROLMENT OF STALLIONS DURING THE YEARS 1907-1908.

BREED	YEAR				
	1904	1905	1906	1907	1908
Clydesdale	68	25	81	86	95
Percheron	16	10	35	56	52
Standard Bred.	8	2	10	15	15
Shire	10	4	10	18	11
Hackney	5	1	2	8	8
French Draft	2	4	5	2	8
Thoroughbred	3	1	10	8	6
Suffolk.	3	..	3	4	6
Belgian	1	..	2	9	5
French Coach.	2	2	2	..	4
German Coach	..	..	..	2	2
American Saddle Horse.	..	..	..	..	1
Cleveland Bay.	..	..	1	..	..
French Canadian.	..	..	1	..	..
Total Pure Bred	118	49	162	208	213
Total Grades.	151	98	329	334	269
Total enrolment	269	147	491	542	482

Total enrolment in five years, Pure Bred	750
Total enrolment in five years, Grade	1,181
Total	1,931

The total registrations for the year show a slight falling off in numbers, no doubt due to the adverse financial conditions which prevailed during the early portion of the year and which of course covered the breeding season. It is pleasing to note that during the year 44.2 per cent. of the stallions enrolled were pure bred as against 38.28 per cent. during the previous year. What a sad commentary this makes on the enterprise of Alberta horse breeders! Of the total stallions enrolled to date only 38.84 per cent. are pure bred; the balance are grades, 61.16. Alberta is as fine a country in which to raise horses as lies out of doors, but how can any one expect the country to do it all if the breeders will not assist by using pure bred sires?

ANIMALS RUNNING AT LARGE

The provisions of The Stray Animals Ordinance require the finder of any estray animal, which cannot be driven away from his premises to notify the owner, if the owner is known to him. If the owner is not known or refuses to remove the animal upon being notified the Ordinance requires the finder to send a notice giving a complete description of the animal to the Department of Agriculture for publication in the supplement to the official gazette. This notice is published in two consecutive issues of the gazette, and if no claimant appears within two months after the insertion of the first notice the finder makes application to a justice of the peace to have the animal sold. The proceeds of the sale are disposed of: (1) by paying the expenses of the justice of the peace and the finder, and (2) the balance, if any, is sent to the Department of Agriculture where it is deposited to the credit of the general trust fund. If the loser of the animal makes application to the Department for the balance of the proceeds of sale any time within twelve months after the sale takes place and can furnish proof of ownership, the balance is refunded to him. If application is not made in the above time the proceeds of the sale pass into the general revenues of the province. Some complaints have been made by finders of estrays that the amount allowed for keep is not sufficient to pay for the food the animal eats, but the object of the Ordinance is not to encourage the taking up of estray animals, but rather to discourage this. However, when an estray animal cannot be driven away from the premises of the finder, provision is made whereby he can dispose of it and at the same time enable the owner to locate his animal. The supplement to the official gazette, containing the notices, is sent to all the post masters, members and officers of R.N.W.M.P. and all justices of the peace in the province.

During the year 1908, 616 head of cattle, 394 horses and 24 pigs were advertised in the supplement to the gazette. Of this number 153 cattle, 83 horses and 4 pigs were sold. The remainder of those advertised were returned to their owners.

The following is a statement showing the details of all the sales of animals taken up and sold under The Stray Animals Ordinance during the year:

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE, 1908.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proc'ds of Sale	Sent to Department
G. H. Darlow.	Alx	Cow, red, roan under belly, a little white on left flank, left horn half gone, brand resembles N 7 K, on left ribs	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	\$16 50	\$ 4 50
"	"	Steer, roan, brand resembles Z, round topped T, quarter circle over on right hip.	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	13 25	1 30
"	"	Heifer, red, with white face, no brand visible	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	10 00	
"	"	Heifer, black, yearling, no brand visible	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	10 25	
"	"	Cow, roan, both tail, half left horn gone, no brand visible, with calf one week old at foot	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	7 00	
"	"	Cow, red, end of right horn gone, aged, no brand visible	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	20 50	8 40
"	"	Heifer, roan, tips of horns gone, two years old, no brand visible	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	16 50	4 48
"	"	Steer, red, white under belly, and on both flanks, two years old, brand resembles G 4 half diamond under, on right hip	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	10 00	
"	"	Cow, red, moolley, white under belly, indistinct brand on left ribs	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	11 50	5 90
"	"	Steer, black, moolley, two years old, branded lazy V, T bar over, on left hip	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	18 00	
"	"	Cow, red, five years old, branded V 7 lazy R, on right hip	Jan. 5, 1908	Jan. 31, 1908	April 8, 1908	21 75	8 55
"	"	Cow, red and white, twelve years old, branded O, half circle connected, on right hip	Nov. 1, 1907	Feb. 29, 1908	May 18, 1908	15 00	
"	"	Cow, red, four years old, branded D I V, on right leg, with calf at foot	Nov. 1, 1907	Feb. 29, 1908	May 18, 1908	15 00	75
"	"	Steer, red, moolley, 4 or 5 years old, branded P H 3, on left ribs	Nov. 1, 1907	Feb. 29, 1908	May 18, 1908	17 25	3 00
"	"	Steer, red, white face, blurred brand on right ribs	Nov. 1, 1907	Feb. 29, 1908	May 18, 1908	23 50	11 18
"	"	Steer, black and white, doge, horned, about 18 months old, ends of both ears frozen off, no brand visible	Nov. 1, 1907	Dec. 14, 1907	Feb. 17, 1908	13 00	
"	"	Steer, red and white, horned, about 18 months old, under cut on left ear, branded T, quarter circle under, connected to end of T, P connected to top of T on left thigh	Dec. 25, 1907	Feb. 15, 1908	May 7, 1908	11 00	
"	"	Heifer, red, dehorned, two years old, blurred brand resembling upright quarter circle, joined to two half lazy Y's with bottom ends joined, quarter circle under, on right shoulder	Dec. 25, 1907	Feb. 15, 1908	May 7, 1908	10 50	
Jas McNicol	Blackfalds	Heifer, black, some white on belly, with horns, one year old	Oct. 1, 1907	Feb. 29, 1908	May 7, 1908	10 00	
"	"	Heifer, red and white, with horns, one year old, no brand visible	Nov. 1907	Jan. 15, 1908	Mar. 17, 1908	11 00	
"	"	Heifer, red, moolley, one year old, no brand visible	Nov. 1907	Jan. 15, 1908	Mar. 17, 1908	11 50	
"	"	Steer, calf, white, horned, and visible	Nov. 1907	Jan. 15, 1908	Mar. 17, 1908	12 50	1 00
P B. Anderson	Barclay	Cow, red, branded, W, T bar, on left ribs	Oct. 1, 1907	Jan. 15, 1908	Mar. 17, 1908	8 50	
E. C. Symes.	Battleview	Steer, red and white, white stripe on face, about 4 years old, no brand visible	Nov. 1907	June 30, 1908	Sept. 29, 1908	12 00	7 65
"	"	Steer, roan, cow in right ear, 2 1/2 years old, branded inverted W L, on right ribs, obscure brand on left ribs	Nov. 1907	Sept. 15, 1908	Dec. 7, 1908	38 00	30 05
"	"	Steer, red, with horns, short tail, coming three years old, in spring, U in right ear, branded O, bar, E connected, on left ribs	Dec. 1, 1907	June 30, 1908	Nov. 14, 1908	26 00	21 65
"	"	Steer, red and white, horns, one year old, no brand visible	Aug. 18, 1907	Feb. 15, 1908	April 25, 1908	12 50	
"	"		Dec. 18, 1907	Feb. 15, 1908	April 27, 1908	5 00	

DEPARTMENT OF AGRICULTURE

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proce'ds of Sale	Sent to Department
C. O. Bjorkblad...	Bawlf	Heifer, red, and white spotted, with horns, stump tail, two years old, no brand visible	Nov. 17, 1907	Mar. 14, 1908	July 25, 1908	\$12.50	\$3 50
W. B. McPherson	Bentley	Gelding, sorrel, white stripe in face, four white feet, age about 10 years, weight about 700 pounds, branded inverted L, on right shoulder and same on right flank	Aug. 1, 1908	Sept. 15, 1908	Dec. 12, 1908	20 50	9 70
"	"	Gelding, saddle, eight or nine years old, branded anchor on left hip	Jan. 13, 1908	Jan. 31, 1908	Mar. 24, 1908	14.75	....
Robt. McCue...	Bowden	Steer, red, with white spots, about 4 or 5 years old, branded H B, on left ribs, and indistinct H B, on left hip	July 1906	Dec. 15, 1907	Feb. 24, 1908	34 00	20.51
J. I. Brewster...	"	Cayuse mare, chestnut, white face, left hind foot white, has halter on, branded J E monogram, on right shoulder and reversed E with rounded corners, on right hip	July 10, 1907	Nov. 15, 1907	Jan. 25, 1908	16 50	5 20
A. P. Patrick	Calgary.	Cayuse, gray, aged, branded, L 3 on left hip	May 1907	Nov. 15, 1907	Feb. 15, 1908	10 00	4 50
R. D. Fleming	Camrose	Steer, red and white, indistinct brand on left hip	May 1906	Jan. 15, 1908	Mar. 18, 1908	20 00	14 00
"	"	Calif. heifer, spotted red and white, about three weeks old when found.	May 22, 1907	Feb. 15, 1908	Mar. 30, 1908	7 00	....
"	"	Heifer, red, white on belly, one year old, V bit out of right ear, no brand.	Nov. 1907	Feb. 15, 1908	Mar. 30, 1908	3 00	....
Arthur Duffus	Calgary..	Steer, red, long horns, age 6 years, branded U S, on right hip, in vicinity for 4 years.	Nov. 7, 1907	Aug. 15, 1908	Dec. 12, 1908	15 00	6 25
E. J. Camies	Clareholm	Gelding, dark bay, age about 5 or 6 years, weight about 1,000 lbs, lame in right hind leg, branded inverted V connected to flying quarter circle up, on right jaw.	Aug. 1908	Sept. 30, 1908	Jan. 6, 1909	22 00	14.80
"	"	Steer, red, age 2 years, no brand visible	June 1908	Oct. 15, 1908	Dec. 23, 1908	105 00	97 38
"	"	Cow, red, white face, branded 9 inverted i over bar, on left side, and right and left quarter circles connected by horizontal bar, on right side, calf at foot. Heifer, red and white, 3 years old, no brand	July 1908	Oct. 15, 1908	Dec. 23, 1908	14 00	7.65
"	"	Horse, bay, shod, on hind feet, about seven years old, weight about 1,500 lbs, no brand visible.	July 1908	Oct. 15, 1908	Dec. 23, 1908	47 50	44 30
"	"	Horse, gray, lame on right front foot, about eight years old, weight about 1,150 lbs, no brand visible.	Jan. 26, 1907	April 30, 1907	April 11, 1908	70 50	62.49
"	"	Mare, chestnut, white stripe on face, two white hind feet, about nine years old, branded T on left shoulder, also blotched brands which resemble rising bar running to P, on right shoulder.	Jan. 26, 1907	April 30, 1907	April 11, 1908	70 50	62 49
Jos. Tyas..	Calgary.	Cow, red, white marks on face, age about six years, indistinct brand on left ribs	June 16, 1908	June 30, 1908	Sept. 12, 1908	55 00	46 61
Simon Downie	Castairs ..	Steer, red, using two years old, no brand visible... branded inverted Gelding pony, bay, white face, hind feet white, branded inverted script V, looks like script V, on right shoulder, and Z or 2, on right thigh	Jan 15, 1907 Dec 1, 1907 Nov 3, 1907	Feb. 15, 1908 Jan. 31, 1908 Dec. 31, 1907	April 29, 1908 April 18, 1908 June 20, 1908	15 00 11.50 30.00	8.75 15 23

E. L. Tyner	Christians	Gelding, bay, weight about 900 lbs., branded J, script T, on right flank	April 8, 1908	May 31, 1908	Aug. 10, 1908	\$46 00	\$30 60
C. S. Hotchkiss	Chaschohm	Cow, white face, both ears slit, branded L on left ribs and H bar over, on left rump	Aug. 25, 1907	Aug. 31, 1907	Feb. 29, 1908	25 00	17 60
"	"	Steer, red and white, both ears slit, branded K 9, bar under, on right ribs	Aug. 25, 1907	Aug. 31, 1907	Feb. 29, 1908	25 00	18 60
L. M. Doughty	Content	Steer, light red, white spot on forehead, switch on tail white, some white on belly, coming 2 years old, no brand visible	Jan. 1, 1908	Mar. 14, 1908	May 23, 1908	10 50	.....
D. M. Howard	Coutts	Gelding, sorrel, fifteen hands high, branded wine glass, Y, inverted wine glass Y, monogram, on right shoulder and O L, on left hip	May 1906	Sept. 14, 1907	April 4, 1908	36 00	33.10
R. L. Boyle	Crossfield	Cow, red, coming four years old, branded S reversed L, bar over, on right hip, with black bull Galloway calf at foot	Dec. 1, 1906	Jan. 15, 1908	April 6, 1908	22 00	11 03
"	"	Gelding, sorrel, broad white blaze on face, gentle, weight about 900 lbs., branded reversed J, bar over, under left thigh	Feb. 10, 1908	Mar. 14, 1908	June 29, 1908	15 00	11 43
J. S. Davis	"	(ayuse, gray, branded bar on left shoulder and indistinct brand resembling an oblong with a T shaped mark at each corner, on left hip)	July 1907	Dec. 14, 1907	Feb. 12, 1908	26 00	20 30
"	"	Horse, sorrel, white star on face, saddle marks on back, stool on forehead, weight about 1,200 lbs., about 11 years old, branded heart on right shoulder, heart on right hip and arbitrary brand resembling a tuskle head with stem attached on left hip and same on left shoulder	July 1906 Dec. 1, 1907	Jan. 15, 1908 Mar. 31, 1908	April 1, 1908 June 6, 1908	67 25 8 50	58 87 4 80
"	"	Pinto cayuse, branded RN, on left thigh	Dec. 1906	July 15, 1906	Sept. 8, 1908	59 00	53 53
"	"	Mare, bay, weight about 1000 lbs., branded arrow head (point up) on right hip, square on right shoulder, arrow head (point down) on right shoulder	"	"	"	"	"
"	"	Gelding, dapple gray, weight about 800 lbs., brand resembling 3 bar over, vertical bar under, diamond under vertical bar, on left hip, and 3, bar over, on left shoulder	June 1908	Aug. 15, 1908	Oct. 10, 1908	25 00	21.43
"	"	Gelding pony, roan, weight about 800 lbs., branded bar right quarter circle 6, under lazy B, on right hip	July 1, 1908	Aug. 15, 1908	Oct. 19, 1908	17 50	12.67
"	"	Mare, bay, white strip on face, hind feet white, weight about 1,200 lbs., branded half lazy Z reversed upper half diamond, on right jaw	July 1908	Aug. 15, 1908	Oct. 19, 1908	123 00	116 03
D. H. Douglass	Cooking Lake	Cow, mostly black, white star on forehead, four white feet, white belly, about half of tail white, about 4 years old, very gentle, branded T, inverted G, half diamond under, on left hip, with calf at foot	Sept. 1907	Dec. 31, 1907	Mar. 18, 1908	17 00	2 51
A. S. Blackwood	De Winton	Cow, red, six years old, branded R 6, bar, on left ribs, inverted T, perpendicular bar joined to lower part of the T, on left hip, under bit in left ear, end cut off right ear	Nov. 1, 1907 Jan. 21, 1908	Feb. 29, 1908 Feb. 29, 1908	May 4, 1908 April 24, 1908	25 00 11 50	17 70 ..
Jas. Hunter	Delmoite	Cow, red, a little white on belly, deboned, about six or seven years old	Jan. 21, 1908	Feb. 29, 1908	April 24, 1908	21 50	7 92
"	"	Steer, white, black neck and head, large horns, about 4 years old, no brand visible	Jan. 21, 1908	Feb. 29, 1908	April 24, 1908	28 00	14 30
"	"	Steer, white, small horns, about 4 years old	Jan. 21, 1908	Feb. 29, 1908	April 24, 1908	30 00	16 25
Henry Bell	Dough	Horse, dark brown, white spot on forehead, weight about 1,100 lbs., branded 7 D, on left hip	July 5, 1907	Sept. 14, 1907	Jan. 15, 1908	40 00	26 50
"	"	Cow, dry, gray, no brand visible	May 15, 1907	Jan. 31, 1908	April 8, 1908	28 00	14 40
T. H. Wilson	Edmonton	Cow, dark red white on flanks, points of horns broken off, about ten years old, branded indistinct T, on right hip	Oct. 31, 1907	Dec. 14, 1907	Feb. 27, 1908	19 50	6 02

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Procs of Sale	Sent to Department
T. H. Wilson	Edmonton	Mare, sorrel, lump on right knee, white strip on face, about twelve years old, no brand visible	Oct. 31, 1907	Dec. 14, 1907	Feb. 27, 1908	\$27 00	\$13 33
"	"	Horse, sorrel, four white feet, white face, about five years old, branded T on left shoulder	Oct. 31, 1907	Dec. 14, 1907	Feb. 27, 1908	70 00	54 25
G. S. Worsley	"	Mare, roan, branded C, on right shoulder	Jan. 1908	Jan. 31, 1908	Mar. 17, 1908	41 00	38 00
A. E. Putman	Excelsior	Stag, black, horned, three or four years old, no brand visible	Jan. 1908	Jan. 31, 1908	Mar. 17, 1908	15 42	5 24
"	"	Steer, red and white, with small spots almost roan, broken horns, two years old	Jan. 1908	Jan. 31, 1908	Mar. 17, 1908	15 42	5 23
"	"	Steer, red with white spot on each flank, one year old, no brand visible	Jan. 1908	Jan. 31, 1908	Mar. 17, 1908	15 41	5 23
Fred Campbell.	Ferry Point	Mare, bay, weight about 1,000 lbs., branded K I on left flank	Jan. 1908	Jan. 31, 1908	Mar. 17, 1908	67 50	51 68
Thos. J. Stacey	Et Saskatchewan	Mare, small, broncho, dark brown, a few small white spots on belly, eight or nine years old, indistinct brand on hip	Jan. 1908	Jan. 31, 1908	Apr. 25, 1908	31 00	23 15
John M. Moran	"	Pony, mouse colour, brown strip on back, little white star on forehead, saddle marks, shod all round	Dec. 23, 1907	Mar. 31, 1908	June 9, 1908	22 84	8 75
"	"	Pony, bay, three white feet and white face, right eye white, saddle marks, shod all round	Nov. 1907	Mar. 31, 1908	May 16, 1908	22 83	8 75
"	"	Pony, bay, big star on face, white spot on top of tail, saddle marks, shod all round	Nov. 1907	Mar. 31, 1908	May 16, 1908	22 83	8 75
Geo. Watson	Gilban	Steer, red with white marks, about 4 years old, branded C 7, on right hip	Nov. 1907	Mar. 31, 1908	May 16, 1908	20 00	6 30
H. I. Hastings	Hastings Coulee	Mare, bay, weight about 600 lbs., branded B on left shoulder and J P on right thigh	June 6, 1907	Jan. 31, 1908	May 7, 1908	87 00	72 21
"	"	Cow, light red, branded F, bar over, on right hip, with calf about three months old at foot	July 1, 1907	Dec. 31, 1907	Feb. 20, 1908	12 00	5 00
"	"	Cow, red, white face, branded inverted cross's foot with bar through centre, on right ribs	Dec. 25, 1907	Jan. 31, 1908	Mar. 31, 1908	12 00	5 00
"	"	Steer, red, with one crooked horn, branded S P on right ribs	Dec. 25, 1907	Jan. 31, 1908	Mar. 31, 1908	12 00	5 00
"	"	Cow, red and white spotted, under half crop in right ear, indistinct brand on left side, with bull calf, red and white spotted, at foot	Dec. 25, 1907	Jan. 31, 1908	Mar. 31, 1908	26 00	14 84
"	"	Cow, red and white spotted, under half crop in right ear, indistinct brand on left side, with bull calf, red and white spotted, at foot	Dec. 20, 1907	Feb. 15, 1908	April 17, 1908	26 00	14 84
A. W. Fleming	Heather Brae	Pony, brown, white strip down face, weight 700 lbs., eight years old, no brand visible	Dec. 20, 1907	Feb. 15, 1908	April 17, 1908	27 00	19 74
"	"	Horse, sorrel, five years old, weight 800 lbs., no brand visible	Jan. 16, 1907	July 31, 1907	Jan. 25, 1908	50 00	19 73
"	"	Colt, born in captivity, April, 1907	Jan. 16, 1907	July 31, 1907	Jan. 25, 1908	17 50	8 50
B. M. Heath	Hurry	Steer, black, has long horns, was lame on one front foot all summer, one year old, no brand visible	July 1, 1907	Dec. 14, 1907	Feb. 8, 1908	15 00	12 45
"	"	Heifer, roan, with horns, about three years old in spring, no brand visible	May 1, 1907	Dec. 14, 1907	Feb. 8, 1908	17 50	13 15
"	"	Filly, black, white strip on face running down to right nostril, two right feet white about four inches up on leg, rising three years, weight about 1,100 lbs., slightly lame in left hind leg, no brand visible	Dec. 1, 1907	Jan. 31, 1908	Mar. 23, 1908	118 00	100 65

Owner	Locality	Sex and Age	Date of Birth	Date of Death	Cause of Death	Value at Death	Value at Birth	Remarks
A. W. H. Thompson	High River	Horse, gelding, grayish brown, white strip on face, three white feet, two years old, branded wine glass V, on right shoulder	May 1906	June 15, 1906		\$9 00	\$3 69	
F. N. Reece	Independence	Mare, small, broncho, bay, black mane and tail, white strip across right nostril, weight about 750 lbs.	Nov. 1904	Feb. 13, 1908		40 00	24 85	
"	"	Steer, red with white spot on face and left hip, short horns, two years old, no brand visible	Jan. 15, 1908	Jan. 31, 1908		16 00	55	
David Mitchell	Innisfaul.	Gelding, bay, white spot on forehead, right hind fetlock white, about 8 years old, weight about 1,500 lbs., branded reversed G, G on left shoulder	July 1, 1907	July 13, 1907		40 00	28 00	
"	"	Heifer, black and white, spotted, white heart on forehead, one and half years old, no brand visible	Oct 1, 1907	Mar 24, 1908		15 00	2 58	
"	"	Heifer, black, small white spots on body and white on belly, moolley, rising three years old, no brand visible.	Dec. 1, 1907	Mar. 24, 1908		13 50	1 17	
"	"	Steer, red branded three years old, branded J H monogram, bar over, on right shoulder and X on left hip.	June 1907	April 8, 1908		23 00	8 88	
"	"	Steer, red, with some white on face and under side of body, one horn, one year old, no brand visible.	Dec. 1, 1907	April 27, 1908		8 50		
"	"	Steer, moolley, spotted, one and three years old, no brand visible	Dec 1, 1907	April 23, 1908		20 00	7 45	
"	"	Pony, sorrel, white face, about 6 years old, branded O on right shoulder	Dec 27, 1907	May 9, 1908		18 50	10 95	
Jas. Robinson	Josephsburg	Mare, sorrel, white strip on face, about 8 years old, weight 700 lbs., branded H with coils curved, on left shoulder and on left hip.	Mar 10, 1908	Sept. 14, 1908		22 00	12 55	
A. E. C. Green	Killam	Mare, sorrel, seven years old, weight about 950 lbs., branded quarter circle over quarter circle, bar through, on left shoulder, unbroken on right hip.	July 17, 1908	July 31, 1908		25 00	20 16	
T. H. Currie	Kitscoty	Steer, dark roan, with horns, coming two years old, branded lazy V 9 on right hip.	Nov 26, 1907	Jan 15, 1908		16 00	4 50	
"	"	Cow, black, about 4 years old, branded lazy 7, inverted L, monogram, bar over, bar within	Sept 20, 1907	Oct 15, 1907		12 50	7 29	
"	"	Heifer, red and white, both tail, one year old	Sept 20, 1907	Oct 15, 1907		8 50	3 30	
"	"	Heifer, moolley, with both tail, one year old	Sept 20, 1907	Oct 15, 1907		7 50	2 30	
"	"	Heifer, red, both tail, one year old	Sept 20, 1907	Oct 15, 1907		8 50	3 30	
"	"	Heifer, roan, one year old	Sept 20, 1907	Oct 15, 1907		12 00	6 80	
"	"	Steer, red, white on right side, one year old	Sept 20, 1907	Oct 15, 1907		7 50	2 30	
"	"	Steer, red and black, one year old	Sept 20, 1907	Oct 15, 1907		7 00	1 80	
"	"	Steer, black, white face, one year old, no brand visible.	Sept 20, 1907	Oct 15, 1907		7 00	1 81	
"	"	Heifer, red, with white spots, one year old, no brand visible.	Dec 1, 1907	Jan 15, 1908		15 00	1 25	
Daniel V. Lean.	Lamont	Mare, gray, white strip from forehead down to nose, both hind feet white, two years old, has halter on, branded bell on left thigh	Jan. 20, 1908	Feb. 29, 1908		13 00	...	
T. C. Smith.	Lamont	Cow, red and white, with calf at foot.	Jan. 20, 1908	Jan. 31, 1908		85 00	67 40	
R. R. McNutt	Lavoy	Cow, blue, with horns, no brands visible.	June 1, 1907	Dec. 31, 1907		17 00	5 45	
"	"	Steer, red, horns, about two years old, no brand visible.	Oct 1, 1907	April 30, 1908		4 00	1 62	
"	"	Cow, black, with horns, no brands visible.	Oct 1, 1907	April 30, 1908		4 00	1 62	
"	"	Steer, red, with horns, no brands visible.	Oct 1, 1907	April 30, 1908		4 00	1 62	
Jas. Mundy	Leduc	Steer, red, one year old, no brand visible.	Dec 1, 1907	Jan 1, 1908		12 50	5 08	
"	"	Steer, red, one year old, no brand visible.	Dec 1, 1907	Jan 1, 1908		12 50	5 08	
"	"	Mare, brown, brand on left hip	Dec 1, 1907	Jan 1, 1908		80 00	63 65	
W. H. Willcraft	Leopoldville.	Mare, sorrel, spotted, white face, no brand visible	July 1, 1907	Sept. 14, 1907		20 00	4 55	
F. W. Kerrison	Lac La Poudre	Heifer, red and white spotted, with horns, one year old, no brand visible	Nov. 3, 1907	Jan. 15, 1908		11 00	...	
"	"	Mare, black, left hind foot white, tip of right ear off, about seven years old.	Nov. 13, 1907	Jan. 15, 1908		50 00	34 12	

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Procs'ds of Sale	Sent to Department
H. W. Bennett	Look Out, via Hardisty.	Gelding, roan, weight 1,000 lbs., branded circle with X inside circle, on right stifle.	July 14, 1907	Jan 15, 1908	Mar. 10, 1908	\$41.75	\$27.65
"	"	Mare, sorrel, weight about 1,000 lbs., branded P over lazy 3, on left shoulder.	July 14, 1907	Jan. 15, 1908	Mar. 10, 1908	41 75	27 65
J. Lamoureux.	Lamoureux	Mare, iron gray, two hind and one foreleg white, strip on forehead, weight about 800 lbs., no brand visible. feet, about 12 years old.	Nov. 2, 1906	May 15, 1907	Aug. 17, 1907	42 00	36 87
A. E. Humphries	Leithbridge	Gelding, sorrel, stripe on face, three white. feet, about 12 years old. brand lazy 6 over 11, on left jaw, and right half diamond K. quarter circle under, on left shoulder and sickle, bar over, connected on left hip, and flying S on right jaw.	July 1, 1908	Sept. 30, 1908	Dec. 16, 1908	30 00	22 65
"	"	Gelding, brown, right hind foot white, age about 12 years, branded Y L, monogram, on right shoulder, and on left thigh.	July 1, 1908	Sept. 30, 1908	Dec. 16, 1908	29 00	21 08
"	"	Gelding, bay, star on forehead, hind feet white, age about 15 years, branded J E, monogram, middle bar J F, projecting back, on left shoulder, and indistinct brand on left hip.	July 1, 1908	Sept. 30, 1908	Dec. 16, 1908	23 00	15.83
Geo. H. Whitson	Mannville.	Mare, sorrel, white strip on face, aged seven years, weight about 850 lbs., had halter on, branded reversed 4 on left shoulder.	June 8, 1907	Aug. 31, 1907	Jan. 2, 1908	35 00	23 60
"	"	Steer, red and white, about two years old, branded running V, bar over, on right hip.	May 15, 1907	Feb. 13, 1908	Aug. 30, 1908	15 00	2.55
T. W. Shaw.	Midnapore.	Sorrel pony, white spot on forehead, black strip along back, branded V, quarter circle under, on left hip, has short leather strap around neck.	June 1, 1907	Oct. 15, 1907	Feb. 3, 1908	8 00	1 70
John B. Wilcox...	Manfred.	Horse, red roan, white star on forehead, one white leg about twelve inches above hoof, about 5 years old, weight at present about 1,000 lbs., quite tame, halter broken, no brand visible.	1906	Oct. 30, 1907	Mar. 21, 1908	71.25	57 20
"	"	Steer, calf, white star on forehead, white spot on back and also on left side, white tip on tail, no brand visible.	Aug. 15, 1907	Feb. 15, 1908	April 23, 1908	6.00	.13
"	"	Steer, dark red, white under belly, white bush on end of tail, white spot on left shoulder, left horn is a little down, two years old in spring, two blotched brands on right ribs.	Dec. 1907	Mar. 31, 1908	July 14, 1908	15.00	6.25
A. W. Tod.	Mannville.	Heifer, dark red, with horns, one horn turned down, about three years old, no brand visible.	Aug. 30, 1907	Dec. 31, 1907	April 4, 1908	16 00	4.55
D. J. Markeberg.	Markerville.	Steer, calf, red, about ten months old, unbranded.	Sept. 20, 1907	Jan. 31, 1908	Mar. 23, 1908	4 75	...
"	"	Steer, calf, red, about eight months old, with small rope around neck, unbranded.	Sept. 20, 1907	Jan. 31, 1908	Mar. 23, 1908	4 75	...
"	"	Steer, red, end of tail white, right ear has been cut or frozen off, both horns broken off, about two years old, no brand visible.	Jan. 25, 1908	Feb. 15, 1908	April 22, 1908	10 00	...
"	"	Heifer, red and white, one year old, hole in right ear, branded J G, on right hip.	Dec. 15, 1907	Jan. 31, 1908	April 22, 1908	4 00	...
"	"	Mare, buckskin, three or four years old, branded inverted 7, reversed E, connected on right thigh.	Jan. 1, 1908	Feb. 15, 1908	Oct. 1, 1908	15.00	2 16
W. A. Robertson.	Millet.	Horse, bay, white strip on forehead, five years old, branded I R monogram, on right flank.	Nov. 10, 1907	Dec. 14, 1907	Mar. 27, 1908	20.00	5.78

A. E. Mine.	Mundare....	Steer, dark red, star on forehead, tip of tail white, no horns, about two years old, branded K 6 T, on right ribs.	Nov. 15, 1907	May 31, 1908	Sept. 21, 1908	\$20 00	\$5 20
Jas. McLuhan	Manville..	Gelding, pinto, weight about 600 lbs., 12 hands high, coming 3 years old, no brand visible.	Mar. 15, 1908	Aug. 15, 1908	Nov. 5, 1908	25 50	21 40
"	"	Sow, red and black, 2 or 3 years old.	June 15, 1908	Aug. 15, 1908	Nov. 9, 1908	16 34	...
"	"	Sow, red and black, 4 or 5 months old.	June 15, 1908	Aug. 15, 1908	Nov. 9, 1908	16 33	...
Wm. Robertson	Nanton..	Sucking pig, red, three weeks old.	June 15, 1908	Aug. 15, 1908	Nov. 9, 1908	16 33	...
"	"	Cow, dark red, branded 5 on left hip and L on top of left ribs just back of shoulder.	Feb. 1907	July 15, 1907	Jan. 20, 1908	30 50	20 93
"	"	Colt, black, good stock, no brands visible.	Nov. 21, 1907	Feb. 29, 1908	May 9, 1908	27 50	21 92
"	"	Pony, buckskin, bob tail, weight about 750 lbs., branded lazy B on right hip.	...	...	...	...	...
A. E. Faulkner	Noelon..	Steer, red, tip of horns broken off, two years old, no brand visible.	April 18, 1907	May 15, 1908	July 25, 1908	8 00	4 75
H. G. Fithouse.	New Sarepta..	Mare, sorrel, white strip on face, hind legs white, about six years old, weight about 700 lbs., branded X U on left shoulder.	Sept. 15, 1907	Jan. 15, 1908	Mar. 5, 1908	11 00	...
S. R. Hodson.	Okotoks..	Steer, roan, bob tailed, branded outline like that of a dustpan, on left shoulder and indistinct brands on ribs and thigh.	June 10, 1907	Feb. 29, 1908	April 16, 1908	20 00	4 33
"	"	Steer, red, aged, branded N 7 P on left hind quarter, the 7 and P blurred, left ear cropped.	Nov. 15, 1907	Feb. 15, 1908	May 19, 1908	30 00	21 50
"	"	Steer, red and white, about 5 years old, branded U C, bar, on left ribs.	May 15, 1907	Feb. 29, 1908	Aug. 25, 1908	14 00	4 60
J. W. Silverthorn.	Olds.....	Steer, red, four years old, branded L O, bar under, on left hip near root of tail.	Dec. 15, 1907	Feb. 29, 1908	Aug. 25, 1908	30 00	20 10
W. E. Turner	Ponoka..	Steer, red, coming three years old, no brand or marks visible.	Fall of 1906	Jan. 15, 1908	Mar. 24, 1908	15 00	2 58
"	"	Steer, white, coming two years old, ear mark, no brand visible.	Nov. 16, 1907	Jan. 31, 1908	Mar. 27, 1908	10 00	9 00
"	"	Mare, dark brown, white face, white hind foot, weight 800 lbs., branded lazy E, and diamond on left hind leg.	Nov. 16, 1907	Jan. 31, 1908	Mar. 27, 1908	10 00	9 00
"	"	Steer, light roan, one year old, no brand visible.	Sept. 1907	Dec. 14, 1907	April 3, 1908	10 50	...
"	"	Gelding pony, cream buckskin, about ten years old, weight about 750 lbs., branded 6, quarter circle over, G, U, over on left shoulder.	Dec. 15, 1907	Jan. 31, 1908	April 18, 1908	9 00	...
Edward Noden	Provost...	Helfer, red, branded lazy goose egg on left ribs and lazy goose egg, horse shoe, on left jaw.	June 14, 1908	June 30, 1908	Sept. 12, 1908	30 00	24 15
J. A. McDougall	Ranfurly.	Cow, roan, about three years old, red calf at side, both branded Y N 6 on left ribs.	Aug. 1, 1907	July 31, 1908	Nov. 2, 1908	16 00	11 60
J. Wallace	Red Deer...	Horse, dark gray, four years old, with halter on, branded W over lazy Y on right shoulder.	Nov. 4, 1906	Jan. 15, 1907	Mar. 7, 1908	38 50	14 96
"	"	Filly, roan, white face, four white legs, about two years old, no brand visible.	Dec. 2, 1907	Dec. 14, 1907	Feb. 25, 1908	65 00	53 75
"	"	Steer, red, four years old, cut in dewlap, indistinct brand on left nb and right hip.	Dec. 2, 1907	Dec. 14, 1907	Feb. 25, 1908	20 00	8 00
"	"	Steer, Jersey coloured, two years old, no brand visible.	Nov. 10, 1907	Dec. 31, 1907	Mar. 12, 1908	14 50	2 13
"	"	Steer calf, white, with horns, no brand visible.	Aug. 15, 1906	Dec. 31, 1907	Mar. 17, 1908	8 00	...
"	"	Steer calf, red, bob tail, no brand visible.	Nov. 15, 1907	Jan. 15, 1908	Mar. 26, 1908	6 00	...
"	"	Helfer, black, one year old, indistinct brand on left hip.	Nov. 15, 1907	Jan. 15, 1908	Mar. 26, 1908	6 00	...
"	"	Steer, red, one year old, no brand visible.	Dec. 15, 1907	Jan. 15, 1908	Mar. 28, 1908	8 00	...
"	"	Helfer, white, one year old, no brand visible.	Nov. 1, 1907	Dec. 31, 1907	Mar. 30, 1908	6 00	...
"	"	Helfer, small, light red, white between forelegs, short horns, tips of both ears cut off, no brand visible.	Nov. 1, 1907	Dec. 31, 1907	Mar. 30, 1908	6 00	...
"	"	Cow, red, one horn half off, no brand visible.	Nov. 15, 1907	Jan. 15, 1908	Mar. 13, 1908	6 00	...
Nestor Noel.	Riviere Qui Burré	Mare, bay, one year old, no brand visible.	Nov. 30, 1907	Feb. 15, 1908	April 16, 1908	21 00	8 26
A. W. Burton	Ribstone..	Helfer, red, white face, breast, belly and hind legs, tall rangy animal, very nervous and wild, coming three years old, indistinct brand on right side.	Oct. 9, 1907	Dec. 31, 1907	Mar. 16, 1908	31 50	16 55
"	"	"	Oct. 1907	Feb. 15, 1908	May 23, 1908	20 00	8 25

DEPARTMENT OF AGRICULTURE

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proc'ds of Sale	Sent to Department
W. B. Gray..	Stettler	Cow, brindle, one horn down and one up, about thirteen years old, branded P L on right hip, with young calf at foot.....	Dec. 15, 1906	July 15, 1907	Feb. 1, 1908	\$25.50	\$11 00
"	"	Cayuse, blue roan, white face and white feet, aged, no brand visible	July 25, 1907	Nov. 15, 1907	Feb. 4, 1908	27 00	11.33
"	"	Cow, black brindle, ears apparently frozen off, aged, gentle to handle, unbranded.....	May 15, 1907	Dec. 14, 1907	Feb. 24, 1908	20.00	4.50
"	"	Steer, white with red spots, white face, one horn points up and the other downward, about 12 years old, branded two parallel bars over reversed U I, on left hip.....	Feb. 5, 1907	Jan. 15, 1908	April 15, 1908	65 00	48 38
"	"	Mare, dark bay, white strip on face, weight about 800 lbs., off hind foot crippled, branded key on right hip and indistinct brand on left shoulder.....	Dec. 1, 1907	Feb. 15, 1908	April 14, 1908	25 00	12 88
"	"	Heifer, red and white, white strip on face, white legs, notch, under side of right ear, crop off left ear, no brand visible	July 1, 1907	Mar. 14, 1908	May 9, 1908	22 00	8 50
"	"	Gelding, brown, age uncertain, branded 19 on right shoulder	May 20, 1908	June 30, 1908	July 25, 1908	23 00	5 62
"	"	Gelding, black, white strip down face, right eye white, hind legs white from hocks down, branded lazy B over 21.....	May 29, 1908	June 15, 1908	Aug. 8, 1908	39 00	32 13
"	"	Heifer, red with white spots, short horns, coming two years old, branded M 9 or M q, on right hip	Sept. 15, 1906	April 15, 1908	July 15, 1908	21 00	6 07
"	"	Pinto, mare, bay, white face, age about 5 years, weight about 800 lbs., no brands visible, yearling colt at foot, bay, unbranded.....	Nov. 15, 1906	Sept. 15, 1908	Nov. 6, 1908	55 00	47 63
D. A. Bickell	Sedgewick	Mare, bay, crippled in hind legs, drags same part of time, three years old, branded circle on left thigh.....	Nov. 10, 1907	Nov. 30, 1907	Feb. 10, 1908	39.50	27.38
"	"	Sow, white.....	April 15, 1908	May 31, 1908	Aug. 8, 1908	7.50	...
"	"	Gelding, bay, about eight years old, brand resembles 20 connected, over 1 connected to end of the 2, on left shoulder...	June 29, 1908	July 15, 1908	Sept. 23, 1908	50 00	45 32
"	"	Gelding, bay, three years old, no brand visible.....	June 29, 1908	July 15, 1908	Sept. 23, 1908	70 00	65 31
"	"	Yearling, brown, white face, hind feet white, no brand.....	June 29, 1908	July 15, 1908	Sept. 23, 1908	30 50	25 82
"	"	Mare, brown, white face and feet, ten years old, no brand visible	June 29, 1908	July 15, 1908	Sept. 23, 1908	55 00	50 31
Il. B. Dawson...	St. Albert	Mare, buckskin, white face, two white hind legs, branded cross on right shoulder and H on right hip.....	May 1, 1907	June 29, 1907	Feb. 24, 1908	46.00	37.45
J S. McDonald.	Sedgewick	Cow, roan, indistinct brand on right ribs, with roan calf at foot	Sept. 15, 1907	Dec. 31, 1907	Feb. 20, 1908	23.50	11.63
"	"	Calf, roan, no brand.....	Sept. 15, 1907	Dec. 31, 1907	Feb. 20, 1908	7 00	...
"	"	Heifer, red, white belly, dehorned, one year old, no brand visible	Nov. 1907	Mar. 14, 1908	July 7, 1908	10 00	...
R. Ritchie.	Strathcona	Steer, red, white face, some white under belly, tip of tail white, three years old, branded 7 on right hip	July 1907	Jan. 31, 1908	April 16, 1908	12 00	66
J. W. Tipton ..	Strathcona.	Heifer, red, white face and belly, horns, two years old, no brand.	Oct 20, 1907	Mar. 14, 1908	May 29, 1908	12 00	70
E. Good ..	Sunny Slope.	Filly, dark bay, 2 years old, branded G, monogram M L, on left shoulder.	July 20, 1908	Aug 31, 1908	Dec. 10, 1908	77 00	69.55
W. C. Swift..	Tofield	Steer, red, white hind legs, six years old, branded left and right quarter circle, O, 5 without hook, on right ribs.	Jan. 1, 1908	June 30, 1908	Sept. 8, 1908	18.34	7 22
"	"	Steer, red, white hind legs and underline, five years old, branded E on right rump....	Jan. 1, 1908	June 30, 1908	Sept. 4, 1908	18.33	7.22

ENTIRE ANIMALS.

The provisions of The Entire Animals Ordinance prohibits the owner of any stallion that is over one year of age from allowing his horse to run at large in any part of the province at any time. When these stallions are found running at large they can be captured, advertised in two consecutive issues of the gazette, the same as estrays, and sold within twenty days after the first notice has been published. The provisions of the Ordinance also prohibit the owners of bulls that are over nine months of age, from permitting such bulls to run at large in the province, with the exception of those parts which have been set aside as bull districts, under clause 2 of section 4 of the Ordinance. This clause makes provision whereby the Minister of Agriculture can, by publication in the official gazette, proclaim certain districts as bull districts. In such districts bulls can run at large between the 1st day of July and the 31st day of December without being captured. When a bull is captured it is advertised and sold, the same as a stallion.

The following is a list of the bull districts created up to December 31st, 1908:

District No. 1.—All that part of the province lying south of township 34.

District No. 2.—All that part of the province north of township 33 and east of range 11 west of the fourth meridian.

District No. 3.—Townships 51, 52 and 53 in range 17 west of the fourth meridian.

District No. 4.—Township 34 in ranges 2 and 3 west of the fifth meridian.

District No. 5.—That part of the province bounded on the north by township 42, on the east by range 10, on the south by township 33, and on the west by the Red Deer River, as far north as township 36, to a point where the river crosses at range 22, then by range 22 as far north as township 42; with the exception of township 41, ranges 20 and 21, west of the fourth meridian.

During the year 49 bulls, 29 stallions, and 4 boars were captured and duly advertised in the gazette. Of this number 11 bulls and 7 stallions were sold, the remainder being redeemed by the owners. This shows a large increase in the number of reclaimed animals over the preceding year. The balance of the proceeds of the sales of the animals sold is held in the Department in the general trust fund and will be paid to the original owner if application is made within twelve months after the sale took place.

The following is a list of the sales conducted during the year:

SALE OF ANIMALS UNDER THE ENTIRE ANIMALS ORDINANCE, 1908.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Procs of Sale	Sent to Department
D. J. Markeberg.	Markerville.	Bull, black, with small white spots; about 10 months old, no brand visible.		Jan. 31, 1908	Mar. 10, 1908	\$6 00	
John McKenty	Lacombe.	Bull, red, polled, a little white on belly and flanks; one year old, no brand visible.	Nov. 15, 1907	Dec. 14, 1907	Jan. 20, 1908	13 00	
H. V. Mills	Wetaskiwin	Bull, red, white spots, branded 2 D on right ribs	July 15, 1907	Jan. 31, 1908	Feb. 28, 1908	18 00	\$2 50
C. O. Burckblad	Bawlf	Bull, red and white spotted, horned, bob tailed, one year old	Dec. 18, 1907	Feb. 15, 1908	Mar. 16, 1908	5 00	
T. C. Smith	Lamont.	Stallion, sorrel, white spot on forehead, weight about 900 lbs., age four or five years old, branded P, quarter circle over, on right hind leg	July 7, 1908	July 31, 1908	Aug. 29, 1908	25 00	1 50
Jas. Bradley.	Wetaskiwin	Bull, red, two years old, no brand visible		Jan. 31, 1907	Jan. 4, 1908	8.75	
W. E. Turner.	Ponoka.	Stallion, bay, white face, and feet, about three years old, weight 900 lbs					
"	"	Stallion, pony, pinto, two years old, no brand visible	April 25, 1908	May 15, 1908	June 13, 1908	42 00	23 00
S. G. Stephenson	Markerville	Bull, red, between one and two years old, no brand visible	June 14, 1908	June 30, 1908	Sept. 12, 1908	18 00	05
J. Kemmis.	Cowley.	Stallion, gray, 4 years old, weight about 1,000 lbs., branded reversed K or X on left shoulder	June 17, 1908	June 30, 1908	July 28, 1908	10.00	
Chas. Grayson.	Cochrane	Stallion, Clydesdale, bay, two white hind feet, aged, branded reversed L on left shoulder	June 12, 1908	July 15, 1908	Aug. 28, 1908	31 00	3 65
S. W. Richardson.	Vegreville	Stallion, red toan, large white strip on face, hind legs white, about two years old, no brand visible.	June 6, 1908	June 15, 1908	July 18, 1908	40 00	21 65
A. L. Whitten	Clugwell	Small bull, red and white, one year old, has strap around neck	April 24, 1908	May 15, 1908	July 2, 1908	30 00	10 00
F. Campbell.	Ferry Point	Bull, red, two years old, no brand visible	Feb. 25, 1906	Feb. 29, 1908	April 11, 1908	8 00	
R. Bleay.	Evarts.	Bull, red, with white along back and underline, white face, no brand visible	Oct. 21, 1908	Jan. 31, 1907	Jan. 13, 1908	15 00	51
W. B. Gray.	Stettler.	Stallion, bay, two years old, branded M on left shoulder	May 20, 1908	Oct. 30, 1908	Nov. 28, 1908	14 00	
				June 30, 1908	July 25, 1908	23 00	5 62

POUND DISTRICTS.

During the year application was made from six different localities to have pound districts organized. Of this number five were constituted. At the close of the year the following areas had been set apart under the provisions of the Ordinance in addition to those formed under the Village and Municipal Ordinances. The last five on the list are new districts:

No. 1.—Township 7, range 20, sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17 and 18. Township 7, range 21, sections 1, 2, 3, 10, 11, 12, 13, 14 and 15. Township 6, range 20, sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33 and 34. Township 6, range 21, sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36. Township 5, range 20, sections 1 to 36 inclusive. Township 5, range 21, east half.

No. 2.—Township 55, range 26, sections 6, 7, 18, 19, 30 and 31. Township 56, range 26, sections 6, 7 and 18. Township 54, range 27, sections 31, 32, 33, 34, 35, 36, north of the Sturgeon River. Township 55, range 27, sections 1 to 36, inclusive. Township 56, range 27, fractional sections 1, 12 and 13.

No. 3.—Township 55, range 26, sections 1, 2, 3, 4, 5, 8, 9, 10, 11 and 12, and the south half of sections 13, 14, 15, 16 and 17. Township 54, range 26, north half of sections 31, 32, 33, 34 and 35.

No. 4.—Township 3, range 24, sections 21, 22, 23, 24, 25, 26, 27, 28, 33, 34 and 35. Township 4, range 24, sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36. Township 5, range 24, all that part south of the St. Mary River. Township 5, range 23, sections 1, 2, 3, 4, 5, 6, 11 and 12, and that portion of sections 7, 8, 9 and 10, south of the St. Mary River. Township 4, range 23, sections 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36.

No. 5.—Township 30, range 4, sections 1 to 24, inclusive.

No. 6.—Township 47, ranges 13 and 14. Township 48, ranges 13 and 14.

No. 7.—Township 51, range 24, sections 5, 6, 7, 8, 17 and 18.

No. 8.—Township 50, range 24.

No. 9.—Township 53, range 22.

No. 10.—Townships 12 and 13, ranges 21 and 22.

No. 11.—Township 20, ranges 25 and 26.

No. 12.—Township 16, range 29, sections 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35 and 36.

All west of the fourth meridian.

In these districts 50 cattle, 29 horses and 5 pigs were impounded and advertised in the gazette during the year. Of this number only two calves were sold, particulars of which will be found on another page.

SALES OF ANIMALS UNDER THE FOUND DISTRICT ORDINANCE, 1908

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proc'ds of Sale	Sent to Department
Chas. Barber ..	Nestor.....	Heifer calf, red, 6 or 7 months old, no brand. Bull, red and white brindle, appears to be an Ayrshire, about 6 months old, no brand.....	Aug. 7, 1908	Aug. 31, 1908	Sept 28, 1908	\$16 16	

SALE OF ANIMAL UNDER THE HERD DISTRICT ORDINANCE, 1908.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proc'ds of Sale	Sent to Department
P. C. Gilbert	Streamstown. .	Heifer, black (Polled Angus), age about two years, no brands visible.	July 3, 1908	Sept 15, 1908	Oct. 9, 1908	\$24 65	....

HERD DISTRICTS.

The Herd District Ordinance passed by the Territorial Legislative Assembly only provides for the formation of herd districts in that portion of the province formerly in the Territorial district of Saskatchewan, *i.e.*, the district north of the division line between townships 34 and 35 and as far west as the line dividing ranges 10 and 11. It is in this district only, therefore, that new districts can be organized, as no amendment has been made to this Ordinance since the province was inaugurated.

The following districts have been constituted under the provisions of the Ordinance:

Range 1, townships 29, 50, 51, 52 and that portion of township 53 lying south of the North Saskatchewan River.

Range 2, townships 49, 50, 51, 52, 53 and that portion of township 54 lying south of the North Saskatchewan River.

Range 3, townships 51, 52, 53 and those portions of townships 54 and 55 lying south of the North Saskatchewan River.

All west of the fourth meridian.

Range 4, township 51.

The following townships were added during 1908:

Range 1, townships 47 and 48.

Range 3, townships 49 and 50.

Range 4, township 50.

The following new districts were constituted during 1908:

Ranges 1 and 2, townships 38, 39 and 40.

Ranges 3 and 4, townships 38, 39 and 40.

All west of the fourth meridian.

Pound Keepers in Herd Districts.

P. C. Gilbert, of Streamstown; pound kept on the s.e. $\frac{1}{4}$ 30-51-1w4.

R. E. Brown, of Kitscoty; pound kept on section 26-50-3w4.

R. W. Humphrey, of Marwayne; pound kept on the s.e. $\frac{1}{4}$ 14-53-3w4.

In these districts only one animal was sold, the particulars of which will be found on another page.

STOCK INSPECTION.

During the year stock inspectors have been appointed at a number of new points which have developed sufficient importance as stock shipping centres to demand attention. Besides this there have been a number of changes in the personnel of the inspectors already appointed. All inspectors were asked to appoint deputy inspectors under the provisions of the Ordinance, so that in the absence of the inspector there was always some one to act and the shipper would not be detained when making a shipment. The assistance given in previous years to the Western Stock Growers' Association in maintaining a competent stock inspector at Winnipeg to inspect all shipments from Alberta was continued. As the result of this work quite a large number of animals have been detected as having been improperly shipped. The secretary of the Western Stock Growers' Association located the owners as far as he could, forwarding money received for each animal properly identified. The list and description of the animals unlocated, together with the balance of the money, he forwarded to the Department to be

advertised in the official gazette. A number of those so advertised have been claimed and the money paid over on the Department being satisfied of ownership. The balance of the proceeds will be placed in the general trust account, when it may be claimed during a period of twelve months, after which it passes into the general revenue of the province.

Below is a tabular statement of the returns of inspections made by the various stock inspectors throughout the province during the year.

Glancing at the figures from a comparative point of view with those of 1907 it is found that there has been in the aggregate an increase of 4 per cent. over the total shipment of 1907 which amounted to about 115,000 horses and cattle. In shipments of cattle made to the Eastern Provinces and Great Britain there has been a decided increase; shipments from such points as High River, Innisfail and Lethbridge districts being much in advance of 1907 as shown below:

	1907	1908
High River	2,652	4,587
Innisfail	42	570
Lethbridge	1,709	4,480

Heretofore inspectors for Medicine Hat and Strathmore districts accounted for a very large number of the cattle exported to the east, but the decrease in these districts in the returns this year are only in figures, the actual shipments being made from other points but accredited to the above points because the inspections were made by the stock inspectors at these points. Now the area is covered more evenly by other inspectors.

Horses sent east were much on a par with the number exported for 1907. Gleichen district shows the greatest increase with a total of 782 as compared with 399, while on the other hand Lethbridge had a large falling off. This falling off may most likely be on account of shipments taking place from other points instead of as heretofore from Lethbridge.

Western shipments were quite active all the year round. In Cochrane and Daysland districts where inspectors were only appointed during the year, the total number of cattle sent west was 529 and 116 respectively. High River had an increase of over 75 per cent. compared with 1907. Olds, Cochrane and Daysland being well to the fore in transportation of horses from their districts. Lacombe and Innisfail show a falling off.

The local shipments throughout the province were very numerous, especially with horses. This is attributed in some measure to the Dominion Exhibition held in Calgary during the months of June and July, as in and from around High River District the number of horses shipped trebled those of 1907. A great many entries in the horse classes were made at the exhibition from around that district.

The inspections at Calgary showed that 2,935 horses were shipped during the year as compared with 922 in 1907. Strathcona returns show 519 horses shipped compared with 238 in 1907. Both these shipments were no doubt influenced by the exhibitions at Calgary and Edmonton. Cattle shipments did not fluctuate one way or the other. Ponoka district calls for special attention in the fact that while in 1907, 422 cattle were returned as being exported from the district, last year the number amounted to 882.

STOCK STATISTICS FOR ALBERTA. Calculated from returns received up to December 10th, 1908

SHIPPING POINTS	INSPECTORS	EXPORTS				LOCAL SHIPMENTS		TOTAL	
		EAST		WEST		CATTLE	HORSES	CATTLE	HORSES
		CATTLE	HORSES	CATTLE	HORSES				
Airdrie..	W. A. H. Downie	375	13	107	10	..	18	482	41
Alix ..	Horace Hickling	586	8	258	4	444	33	1,288	45
Bawlf. .	O. E. Eggen	513	..	158	..	280	2	951	2
Blackfalds	Joseph Capron	18	..	..	..	39	..	57	..
Bowden ..	P. McDermott	..	..	..	1	1	7	1	8
Brooks Station..	Wm. J. Ball	4,507	..	..	22	4	14	4,511	36
Calgary ..	P. D. Sanders	5,246	411	5,693	408	478	2,935	11,417	3,754
Canrose ..	W. F. Duggan	90	..	203	2	430	9	723	11
Cardston ..	Frank Austin	3,812	40	61	..	156	1	4,029	41
Carstairs ..	Robt. Scott	1,409	..	496	6	77	8	1,982	14
Chigwell ..	R. A. Read	..	..	..	..	41	..	41	..
Chipman ..	Andrew Watson	50	..	..	..	535	..	585	..
Clareholm ..	C. W. James	96	..	11	33	207	278	314	311
Cochrane ..	W. B. Elliott	1,060	74	529	131	431	103	2,020	308
Coutts ..	Wm. T. Patton	1,412	..	..	..	236	4	1,648	4
Cowley ..	C. B. Miller	39	..	88	73	..	15	659	88
Crossfield ..	Wm. Urquhart	657	20	329	..	532	13	1,280	33
Daysland ..	D. Davidson	131	..	116	173	311	49	558	222
Didsbury ..	J. E. Leisemer	827	21	887	9	205	10	1,919	40
Edmonton ..	W. H. Pickering	163	151	..	1	338	286	501	438
Erskine ..	J. E. Longacre	1,635	..	99	1	6	3	1,740	4
Fort Saskatchewan	John Graf	239	..	..	..	239	..	239	..
Gleichen ..	Harry Scott	4,682	982	108	..	225	161	5,015	1,143
Grassy Lake ..	Wm. Salvage	1,993	..	..	..	357	..	2,350	..
High River.....	J. L. Sexsmith	4,587	224	2,136	169	1,047	353	7,770	746
Innisfail ..	W. T. Lundy	570	8	532	17	588	131	1,690	156
Irvine ..	Carl Beny	1,042	262	..	..	128	54	1,170	316
Islay ..	D. H. Moore	..	..	..	..	9	..	9	..
Lacombe ..	Jas. P. Kent	1,150	95	331	19	848	279	2,329	393
Lamont ..	R. J. Torrie	154	..	..	..	599	..	753	..
Lavoy ..	Fred Pass	42	..	..	..	10	3	52	3

REPORT ON WOLF BOUNTY.

The continuation of the bounty on wolves under regulations adopted during 1907 has met with general approval. This being the first experience in connection with the payment of bounty on prairie wolves it was thought that the amount voted by the Legislature, \$20,000, would be sufficient to meet all demands for bounty during the year. During the months of February and March bounty warrants were received at such a rate as to call for an expenditure of two hundred to six hundred dollars per day, consequently the amount voted for this purpose was exhausted early in April and instructions were issued to inspectors to not issue any warrants after the twentieth day of April. All warrants issued previous to this date were honoured as presented. An occasional one of these warrants issued during the early part of 1908 and in some cases the end of 1907 is being received. The amount paid out for this purpose for the year 1908 was \$26,701, being \$6,701 in excess of the amount voted by the Legislature.

It is regrettable that it was necessary to cease the payment of bounty so as not to unduly exceed the amount voted by the Legislature for this purpose, for had it been continued for four or five months longer, that is, during the breeding season, the results would have been much more effective in destroying coyotes as then many litters would have been destroyed. Many parties were planning to continue the work of destroying these animals for the bounty, but could not afford to do so when no bounty was being paid, as the pelt during the summer season is practically good for nothing.

No money can be expended to better advantage than for the destruction of wolves, as in many districts the farmers find it almost impossible to raise sheep or poultry. As a very small proportion of farmers are expert rifle shots it is therefore advisable to offer some inducement to the hunter or trapper to make a business of destroying this pest. If a liberal amount of money is expended for this purpose for a few years these animals will become so reduced in numbers that a much smaller expenditure will keep them in check.

In addition to the R.N.W.M.P., who are inspectors north of the fifty-fifth parallel, the following still hold appointment as wolf bounty inspectors:

WOLF BOUNTY INSPECTORS BY CONSTITUENCIES.

Athabasca.

Biggs, Wm.	Fort McKay.
Griffin, A. H.	Wabiskaw.

Banff.

Grayson, Chas.	Cochrane.
Ricks, Frank.	Morley.
Sibbald, H. E.	Exshaw.
Bell, Ernest.	Lochend.

Cardston.

Austin, Frank.	Cardston.
Patton, Wm. T.	Coutts.

Calgary.

Sanders, P. D.	Calgary
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Edmonton

Pickering, W. H Edmonton.

Gleichen.

Downie, W. A. H Airdrie.
 Ball, W. J. Brooks Station.
 Urquhart, Wm Crossfield.
 Scott, Harry Gleichen.
 Vigar, F. C. Rosebud Creek.
 Moorehouse, Oscar Strathmore.
 McBeath, J. P. Dorothy.
 McGregor, A. A Bassano.

High River

Sexsmith, J. L High River.
 Winsor, Henry Nanton.
 Patterson, John Okotoks.

Innisfail.

McDermott, P Bowden.
 Lundy, W. T Innisfail.

Lacombe.

Brereton, T. A Valley City.
 Mather, Alex Alix.
 Capron, Joseph Blackfalds.
 Damron, John Bentley.
 Read, R. A Chigwell.
 Tait, W. H Content.
 Cull, F. A Canyon.
 Longacre, J. E. Erskine.
 Kent, Jas. P Lacombe.
 Huston, W. C Morningside.
 Prudden, W. E Red Willow.
 McCullough, A. W Stettler.
 Tees, Wm. E Tees.

Leduc.

Johnson, J. S Leduc.
 Robertson, Wm. A Millet.
 Sanders, Nels. A Orhnville.

Lethbridge.

Salvage, Wm Grassy Lake.
 Lowther, C. W Lethbridge.
 O'Brien, T. J Raymond.
 Ostlund, H Stirling.

Macleod.

James, C. W Claresholm.
 Matthews, R. G Macleod.

Medicine Hat.

Beny, Carl Irvine.
 Bray, J. H. G Medicine Hat.
 Davis, G. E Talbot.
 Sinclair, Lauchlan Walsh.

Ponoka.

Hally, Andrew Ferry Point.
 Johnston, J. D Highland Park.
 Reid, A Ponoka.
 Bosmans, E Round Hill.
 Thorpe, Herbert Rimbey.
 McKenzie, Foster Sedgewick.
 Bryenton, F. W. B Spring Lake.

Pincher Creek.

Allan, Glendower.	Pincher City.
Miller, C. B.	Cowley.
Robertson, James	Pincher Creek.

Rosebud.

Scott, Robert.	Carstairs.
McKercher, Thos.	Olds.
Liesemer, J. E.	Didsbury.

Red Deer.

Gaetz, J. B.	Red Deer.
Hayden, David.	Evarts.
Fleming, Roy E.	Penhold.

Strathcona.

Horton, H.	Clover Bar.
Wainwright, J. C.	Strathcona.

Sturgeon.

LeGoff, N.	Lac la Biche.
Erasmus, Peter.	White Fish Lake.

Stony Plain.

Gunn, Peter.	Lac Ste. Anne.
Imeson, George.	Stony Plain.
Eccles, S. J.	Spruce Grove.
Dunn, C. H.	Wabamun.

St. Albert.

Macdonald, Gordon.	Belvedere.
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Victoria.

Torrie, R. J.	Lamont.
Carey, E.	Andrew.
Brosseau, E.	Brosseau.
Graf, John.	Fort Saskatchewan.
Mitchell, John A.	Pakan.

Vermilion.

Moody, A. R.	Beaver Lake.
Watson, Andrew	Chipman.
Thirsk, Leon.	Equity.
Gilpin, B. C.	Gilpin.
Dixie, A. J.	Hardisty.
Smith, N. M.	Holden.
McColman, D.	Innisfree.
Moore, D. H.	Islay.
Johnston, A.	Kitscoty.
Pass, Fred	Lavoy.
Miller, Hiram	Lloydminster.
Thomas, J. B.	Mannville.
McDougall, J. A.	Ranfurly.
Brereton, A. W.	Ribstone.
Dawson, J. H.	Wainwright.
MacKenzie, R. A.	Tofield.
Connelly, M. G.	Vegreville.
Brimacombe, M. G.	Vermilion.
Lund, Otto O.	Viking.

Wetaskiwin.

Eggen, K. O	Bawlf.
Duggan, W. F.	Camrose.
Davidson, D	Daysland.
Olstad, O.	Rosenroll.
Miquelon, P. A	Wetaskiwin.

II.—THE PORK COMMISSION.

One of the recommendations of the Beef Commission was to the effect that the Government assist in the erection of a pork packing plant in the province and that the Government take over the entire management of this concern. In order to arrive at some definite understanding of the situation, a commission was appointed to look into this matter and ascertain what information was available for the guidance of the Government in reaching a decision with regard to the advisability of assisting in erecting a pork packing establishment, or of the Government assuming full control of such an establishment and operating it for the benefit of the farmers. The commission appointed consisted of R. A. Wallace, High River, chairman, and the other members of the commission were A. G. Harrison, Edmonton, and James Bower, Red Deer. This commission held sittings in the province as follows:

Edmonton.	July 11th, 13th and 14th.
Cardston.	" 21st.
Lethbridge	" 23rd.
Macleod	" 24th.
Nanton.	" 25th.
Calgary	" 27th.
Didsbury.	" 28th.
Innisfail	" 29th.
Red Deer	" 30th and 31st.
Lacombe.	August 1st.
Stettler	" 4th.
Daysland	" 6th.
Wetaskiwin.	" 7th.
Strathcona.	" 8th.
Edmonton	December 21st.

In September the commission visited pork packing plants in Winnipeg, United States and Ontario. Mr. E. Trowbridge, Edmonton, was appointed secretary of the commission.

The following is the text of the commission and the report of the commissioners:

CANADA
PROVINCE OF ALBERTA.

GEO. H. V. BULYEA,
Lieutenant Governor.

COMMISSION.

Edward the Seventh, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the seas, King, Defender of the Faith, Emperor of India.

To all to whom these presents shall come, or whom the same may in any wise concern, Greeting:

Whereas in and by an order of our Lieutenant Governor in Council, bearing date the third day of July, in the year of our Lord one thousand nine hundred and eight, provision has been made for an investigation by our commissioners therein and hereinafter named with respect to certain matters relating to affecting

the industry and conditions surrounding the marketing and handling of pork and pork products in the Province of Alberta and the advisability or otherwise of governmental establishment of, or assistance to, a pork packing plant or plants and a particular reference to the cost, capacity, mode of management and scope of operation thereof in the Province of Alberta as upon reference to the said order in council, a copy of which is hereto annexed, will more fully and at large appear.

Now know ye that by and with the advice of our Lieutenant Governor in Council, we do by these presents nominate, constitute and appoint Richard Alfred Wallace, farmer, of the Town of High River, James Bower, farmer, of Red Deer, and Arthur Gregory Harrison, secretary of the City of Edmonton, in the Province of Alberta, to be our commissioners to conduct such inquiry.

To have, hold, exercise and enjoy the said office, place and trust unto the said Richard Alfred Wallace, James Bower and Arthur Gregory Harrison, together with the rights, powers, privileges and emoluments unto the said office, place and trust, of right and by law appertaining, during pleasure.

And we do hereby under the authority of the Act respecting Inquiries concerning Public Matters, being chapter 2 of the Statutes of Alberta, 1908, confer upon our said commissioners the power of summoning before them any witnesses, and of requiring them to give evidence on oath, orally or in writing, or on solemn affirmation, if they are persons entitled to affirm in civil matters, and to produce such documents and things as our said commissioners shall deem requisite to the full investigation of the matters into which they are hereby appointed to examine.

And we do hereby require and direct our said commissioners to report to our Lieutenant Governor in Council the result of their investigation, together with the evidence taken before them, and any opinion they may see fit to express thereon.

In testimony whereof we have caused these our letters to be made patent and the great seal of our province to be hereunto affixed.

Witness: The Honourable George Hedley Vicars Bulvea, Lieutenant Governor of our said province, at our Government House, in our City of Edmonton, this third day of July, in the year of our Lord one thousand nine hundred and eight and in the eighth year of our reign.

By Command,

(Signed) HAROLD W. RILEY,

Deputy Provincial Secretary.

REPORT OF THE COMMISSIONERS.

To His Honour the Lieutenant Governor in Council:

The undersigned, having been appointed by commission under the great seal of the province, bearing date the 3rd day of July, 1908, a board of commissioners—

To inquire into and report to the Lieutenant Governor in Council upon the conditions surrounding the marketing and handling of pork and pork products in the province, and advisability or otherwise of governmental establishment of or assistance to a pork packing plant or plants, and a particular reference to the cost, capacity, plan of management and scope of operation thereof and generally to inquire into and report upon the best means under existing conditions and circumstances in the province of insuring for the hog producer therein a fair price for his products, beg to report as follows:

After notice thereof through the press your commissioners held meetings for the taking of evidence, all of which were open to representatives of the press, as well as to the general public, and everyone who expressed a desire to make any statement before us was given an opportunity to do so.

Your commissioners held preliminary meetings in the City of Calgary, and the first session for the taking of evidence was held in Edmonton from July 9th to July 14th inclusive. Prof. C. E. Day, of the Agricultural College of Guelph, Ontario, being the first to give evidence.

Representative farmers, business men, buyers and packers appeared and testified before us at Edmonton, Cardston, Lethbridge, Macleod, Nanton, Calgary, Didsbury, Innisfail, Red Deer, Lacombe, Stettler, Daysland, Wetaskiwin and Strathcona.

Your commissioners in the month of September visited the plants at Calgary, Winnipeg, Toronto, Collingwood, Brantford, Hull, Buffalo, Chicago and Edmonton, where many courteous and instructive interviews were accorded your commission, and figures were obtained from the best authorities as to the cost of a modern plant, which figures are submitted and attached to this report.

Dealing with the subject in more detail we beg to report as follows:

In examining the report made by the beef commission we found a very strong recommendation made that your Government should take some action regarding the hog industry of the province; that it is in bad shape, that seventy-five per

cent. of the cured article was imported into the country and that the local farmer was unable to find a market for what he could raise.

As to this your commissioners would fully endorse the report of the beef commission in regard to the conditions surrounding the pork industry in the province, the situation being practically unchanged since that time, taking the province as a whole; and we would also endorse their recommendation with certain modifications as further outlined in this report.

The evidence adduced before your commissioners throughout the province, and given by its most substantial farmers, who in many cases represented different farmers' organizations, and who spoke not only for themselves, but for their organizations under instructions to do so, goes to show that not only has the farmer not received what he considers a fair price (five cents per pound live weight) for his hogs, but that he has not in very many cases been able to receive any price at all; that he is able to overstock the market; that his energies have been curtailed on this account, and that he does not know where to turn for a market for what he can raise in the hog line even at any price, and still seventy-five per cent. of the cured meat is imported.

At the time your commissioners visited the plant at Hull we found there a consignment of hogs from Saskatoon being slaughtered, while at the same time in the office there was an order for a carload of cured meats for Alberta points.

Alberta packers being in the fresh meat business, do not naturally cure hogs to such an extent as to make them scarce for the fresh meat trade. This is true of the smaller establishments throughout the province, and there has been no comment or objection made by them regarding the importation of cured meats from the United States. If the province had a few more establishments in a competitive way such as the Burns people, who have made what market there has been in the past, the farmer could at least sell his hogs at some price and not be compelled to go out of the business. These are the local conditions, or to put the matter more plainly, while seventy-five per cent. of the cured article is imported and no kick made by our local packers, at least one-half of our most energetic farmers have been compelled to go out of the hog industry on account of no market at all and not receiving a living price for his hogs during part of the year, to say nothing of what could be done by farmers who would become producers of hogs, and farm products suitable for feeding them. This is a serious and distinct loss to the province as a whole and there should be some remedy.

In order to find out what had been tried at other places to overcome like conditions, your commissioners visited Ontario, where at the time there were in existence so-called co-operative plants which were practically joint stock companies, built by farmers who formed joint stock companies for the purpose. These plants did not succeed for the reason that the farmer himself although a stockholder did not as a rule patronize his own plant if he could get a slightly higher price for his hogs at a rival plant, as being a holder of only a small amount of stock he could in many instances afford to sacrifice his stock for the difference he would receive in the price of one load of hogs from the rival concern; also for the reason that in the first instance where a plant should have cost \$100,000, it cost the farmer \$140,000. In other words, he was first of all victimized by the promoters of the plant, and then by himself, and the private owned concerns were enabled to step in, take away the business of the plant and then buy the plant at what it should have cost in the first place, or less, and operate it at a profit, putting the farmer where he was at the start, although throughout Ontario we found the prices for hogs good, but the supply limited, for two reasons: First, the farmer says he cannot get a price that pays him to keep hired help, and second, because feed has during the last eighteen months been high in price and scarce.

The evidence given to your commissioners from those farmers who have come from the United States goes to show that the price of hogs in the different States has fluctuated, and some years it pays to raise hogs and some years not, but in all years there has been a market of some kind, and it is at this point that the Province of Alberta has fallen down the hardest. A splendid healthy country to raise hogs in; plenty of farmers desiring to raise them, but no market sufficient to make it worth while to go into the business, as a business, while seventy-five per cent. of the cured article is imported. Once make Alberta a province where it pays to raise crops for the purpose of feeding hogs and its prosperity and the continuous fertility of its soil is assured.

One thing in this connection which your commissioners think is worthy of your government's consideration, is that while in certain parts of the province the average farmer has no interest at present in hog raising, their attention being wholly taken up in wheat growing, yet the time may not be far distant when results will prove that it would have been better had they been engaged in mixed farming. On this line the following is an extract from the evidence of W. H. Fairfield, superintendent of the Experimental Farm at Lethbridge: "I don't believe that we farmers in this part of the country are very much interested in the hog question. At the present time there is nothing like straight grain farms, but it cannot con-

tinue indefinitely, and I think the farmers will find themselves up against it good and hard in the next ten or twelve years, but as long as we can raise winter wheat it will be hard to interest the farmers in anything else, but when the time comes that they find themselves up against it I fancy they will have to go into mixed farming."

Your commissioners are of the opinion that the matter should be given most careful consideration. They have come to Alberta from the so-called hog States of the American Union because they wanted to better themselves. They have come from Eastern Canada for the same purpose, and to hold them Alberta must solve for them the difficulties they have run up against in their former homes, and one of these is the lack of a stable market for their farm products. There is no good reason why the condition of the *bona fide* farmer in Alberta should not be superior to those of other countries, especially since many came to better themselves and avoid conditions which they are again confronted with in this province.

The market for cured meats is right here in Alberta, and there will always be the English market, the British Columbia market and the market in the north country. The home market, as far as possible, might be left to the private concerns if they will occupy it. To do this the local concerns must cure their meats to suit the trade. If a government controlled plant does nothing more than demonstrate, as the creameries have done, that the article to suit the trade can not only be raised but cured in Alberta, it will be worth the experiment and the financial risk in making such, besides giving an incentive to our farmers to go into the hog business and mixed farming as well as wheat raising, making Alberta a sure crop province, and a province in which financial institutions will have faith to do business.

Your commissioners submit that the evidence shows there are various ideas as to what should be done. Some advocate the expenditure of \$1,000,000 and that the government should not only attempt to control the local trade, but the foreign trade as well; that the farmer should only have to raise the hog and be practically guaranteed his price for any quantity. Others think the government have no business to touch the matter and that, like other countries, the matter will cure itself in time. The best thinking farmer, and the most substantial feel, that there is a course that might be taken to remedy matters, and that an ordinary sized plant might be erected for the purpose of killing and curing hogs only on a basis that will be satisfactory to the farmer and not involve the government in too heavy an expenditure, and will in no way conflict with private enterprise, but would have a tendency to benefit the same, for the reason that the average farmer would go into hog raising, and increase the number and quality of the hogs raised.

The evidence and conditions existing clearly show that something must be done. The Ontario plants failed because they were not controlled by authorities in whom the farmer had confidence. The farmers in Denmark do not receive aid from the government except as to the shipping and marketing facilities. They have a system of country banks from which they can borrow the capital needed. They guarantee each others' liabilities and they run their own plant, and they agree to supply such plant with their hogs under certain penalties.

In this country conditions are such that the farmers could not borrow the money required from the banks, as in Denmark, nor would they care to guarantee each others' liabilities in such a way as they do in Denmark. The government here therefore must supply the money. The guarantee of each others' liabilities by the farmer is not available, and for the above reasons we have come to the following conclusions:

RECOMMENDATIONS.

1. That when a sufficient number of hog growers give a reasonable assurance that they will supply at least fifty thousand hogs per year to a plant and that they will elect from among themselves officers and directors whose duty it will be to look after the steady supply of hogs of suitable quality; to decide on the amount of money needed from time to time to successfully operate the plant; to look after the conduct and abilities of the operators, your commissioners would then recommend that the government furnish the money to build, equip and operate a plant, as they and the directors deem most advisable, so constructed as to admit of enlargement, and the original plant to have a capacity large enough to handle at least three hundred hogs a day at the start; that the management take in the farmers' hogs, pay them at time of delivery up to two-thirds of their estimated value, then at regular intervals as may be agreed upon when sufficient time has elapsed to place the product on the market, pay the producers the balance of the full value of their product, less the cost of curing and marketing the same and a sum sufficient to pay local working expenses, such as insurance, taxes, directors' remuneration, etc., also less one-quarter cent per pound live weight. This one-quarter cent per pound to be applied to the creation of a fund for the purpose of paying back to the government their original investment and interest thereon.

And at the same time to allot shares to each patron equal to the amount paid into this fund by the assessment of the one-quarter of a cent per pound on his product.

2. Your commissioners would further recommend, when the government indebtedness has been finally paid off by this fund, that this fund be then applied to paying a reasonable interest to the patrons on the amount of shares held by them and take the balance to be paid as a bonus on each pound of pork supplied, shares to become transferrable only to *bona fide* patrons, and then only by application to and with the consent of the directors. But in the event of the removal or death of any patrons and where application has not been made for such transfer by him or his heirs for the space of one year subsequent to such removal or death, then the directors may have power to cancel such shares and apply the proceeds to the general fund.

3. Your commissioners would further recommend that in the event of it being found necessary to erect additional plants at other points in the province, those patrons who wish to withdraw from the first existing plant, may do so, with the approval of the directors, the shares held by them being transferred to the new plant with which they may affiliate, and the amount of money thus withdrawn from the first existing plant to be made by the remaining patrons as before.

As each patron would naturally wish the plant to be located near his special place of business so as to cheapen the freight rates paid by him, your commissioners would recommend that the sum total of all freight rates paid on railways be subdivided and charged equally against each pound of pork supplied.

4. To minimize the cost of buying hogs, regular shipping days should be established when the patrons could bring their hogs to their respective railway stations where the regular buying agent could be in attendance, and whose duty it would be to grade the hogs, weigh them and credit each patron with the amount due him. In some cases this might mean the shipping of less than carload lots from one station to the next to be made up there, but it would obviate the difficulty of forcing the patron to keep his hogs after they had arrived at the proper size, hence a more uniform grade could be secured. In Denmark the patrons are paid by "dead-weight," and quality of the hog after inspection which method of payment your commissioners consider worthy of careful consideration.

5. Your commissioners would further recommend that all patrons be required to enter into an agreement to give all the hogs which they wish to dispose of for curing purposes to the packing plant of the association of which they are members. And any patrons who sell their hogs in contravention to their agreement shall be subject to a fine not exceeding two dollars for such hog sold, and that the directors of the association shall have power to cancel the shares of such patron up to the amount of such fine inflicted, and also the power to dispose of such cancelled shares to any other patron, or in any way they think fit, and to apply the proceeds to the general funds of the association. In the case of over-production, or if the plant should be unable from any cause to handle all the hogs offered, then the board of directors may give permission to any of the patrons to dispose of their hogs as they may think fit.

6. Your commissioners would also recommend that the stock commissioner be instructed to canvass the different districts to ascertain the probable number of hogs that the farmers will guarantee to supply and to obtain the signatures of those farmers to this agreement.

SUGGESTIONS.

1. *Capacity.* As to the proper size of a plant with a view to its economical working and best showing of profits to the amount of capital involved, there appears to be an uncertainty even amongst those engaged in the business, but in the opinion of experts like W. R. Perrin and Zachary Davis, of Chicago, the day of building very large plants is past; that the tendency at present is not to exceed \$200,000 in a fully equipped plant; that plants of this size and less are much more economical in their working, and that the only advantage in a very large plant lies in their ability to corner the market both in buying hogs and selling the product, which is really not a legitimate business.

2. *Class of Building.*—As to the proper class of building and equipment, while a wooden building can be built for much less money, yet on account of the inflammable nature of the product, in the way of lard and grease, those engaged in the business like to have their buildings as near fireproof as possible.

As a very great part of the cost of equipment is made up of appliances for chilling and cold storage, and as to a very great extent a well cured article depends on proper chilling, and a proper chilling depends partly on the system used and very much on the quality of the insulation used in the building, it is very evident that the best only should be used. This also determines to a very great extent the amount of profits made, because of the greater drain on the amount of refrigerating power supplied if the insulation is defective.

Your commissioners heard expressions of opinion from some of the producers and from some others that a combined system whereby both beef and pork could be handled in one building would be more economical, but we find that this is not altogether borne out by facts, the larger institutions handling each in separate departments.

Then in the matter of cold storage, if a building is adapted to handling beef there is of necessity a great waste of chilling power if pork is handled in the same building.

Then again, while beef is usually placed on the market in the form of fresh meat, the great bulk of the pork product is placed on the market in the cured state.

A number of chilling systems are in use, but for pork packing the system of compressed ammonia seems to meet with general favour.

As to the kind of insulation used, while a great number use sheet cork in the building, yet a great many practical men think that insulation made up of boards and paper with plenty of dead air space is preferable.

Your commissioners believe these are things that might be safe to leave to a designer, but we think that the practical experience of men engaged in the business should be taken into account.

3. *Cost of Operation.*—As to the cost of operation, your commissioners submit that depends very much on the amount of raw material available, a steady full supply being handled for very much less per hog than could a small fitful supply.

One up-to-date Canadian plant, while running short time one month cost ninety cents per hog exclusive of office management. Another month with a somewhat larger supply the cost was forty-five cents per hog, while the manager stated that on full time and supply it could be done at a cost of thirty cents per hog exclusive of office management.

One representative American firm stated the cost of operation ran from eighty cents to one dollar per hog including office management and marketing, while the average cost of operating thirty-three Danish plants was sixty-seven cents per hog ready for sale at the plant.

This cost would also be governed by local conditions and prices of labour, as except for heads of the different departments. Professional skilled labour is not absolutely necessary; one manager of a most successful plant stating that he preferred unskilled men to start with as they were not so set in their ways and were more willing to work under direction. In this case the cost of a general manager would not be so large as where both hogs, cattle and sheep were handled.

4. *Markets.*—As to a market, your commissioners find there is a good and ever increasing demand for well cured stuff both locally and further west and north. This northern trade demanding a heavy fat article strongly cured.

In regard to the oriental trade, your commissioners have not been able to obtain any very definite information but we are led to believe that there will be a considerable demand there. And when by reason of increased production the market here becomes overstocked the English market is still open where the Alberta cured article would be sold on equal terms with that cured further east, subject of course to the higher freight rates caused by distance; but with the advantage that a co-operative plant would have over a private concern with each patron having the incentive to furnish good stock, the quality could be guaranteed, and where a mild cure was required that would not stand a long distance shipment, this extra quality could be shipped in brine or dry salt and the curing finished there. This is a fancy trade that is now being catered to by the eastern packers to quite an extent, and for which they receive a much higher price, but on account of the difference in handling it is not considered that the relative profit is much greater, yet where a plant could guarantee the quality it would be a good trade. The preference there is now given to the product of the co-operative plants of Denmark because all the patrons are interested in the success of the plant and the quality and a constant supply is assured. The quality of the hogs now raised in Alberta is fairly well suited to the local market, but should be improved, while for the English trade a more uniform grade of the bacon type would have to be furnished.

5. *Shipping.*—As to shipping from Alberta points to the seaboard we found the railway officials somewhat guarded in the expression of their views, as they have no existing stationary rates for that class of stuff, but promise that in the event of a trade being established they will do their best to meet conditions and encourage the trade. And that for through rates the difference would be practically the same from all Alberta points.

6. *Comparative Prices.*—Your commissioners find it very hard to make an exact comparison of the prices paid here and those paid elsewhere, partly on account

of the trade demanding different cuts here to that used in an export trade, and partly on account of the difficulty in getting definite information from the packer as to the actual average prices paid, but taking the prices obtained by the thirty-three co-operative plants in Denmark as given to us by Mr. Sorenson and basing the yield of bacon on the same percentage allowing half the value of the by-products including lard, also allowing \$11.00 per cwt. for bacon as against \$12.39 there, on account of our distance from the export market, the farmer should then receive at the packing plant here an average price of \$7.03 per cwt. live weight. Against this also ought to be charged a slight increase in the cost of operation, but figures submitted to us go to show that the original cost of the plant would be no greater in Alberta than in Denmark.

7. *Cost of Plant.*—In regard to the cost of a plant, your commissioners find that a plant with a capacity of from 250 to 500 hogs per day can be safely estimated at \$100,000, this being the approximate estimate of Zachary Davis, architect, of Chicago, who is a specialist in packing house building, and we believe a man of wide experience. His figures are based on Alberta prices for material and labour.

One plant in Ontario with a capacity of 3,500 hogs per week cost \$146,000.00, and regarding which Prof. Day in his evidence stated, "Is accounted one of the very best equipped factories of its size to-day." We were informed that this figure of \$146,000.00 is too high for reasons which need not be mentioned here.

Another Ontario plant, details of which we submit herewith, having a capacity of two hundred hogs per day, and constructed in 1899, cost as a going concern \$58,000.00. (Appendix I.)

A plant in Western Canada with a combined system for taking care of beef, mutton and pork cost \$115,000.00. This plant the manager stated, if it were fitted for pork alone, would be capable of taking care of seven hundred hogs daily.

The plant at Horsen, Denmark, according to Mr. Sorenson's statement, cost \$80,000.00 which he thought would be about equal in price to a plant of like capacity here. This Horsen plant has a capacity of 100,000 hogs per year.

We submit herewith for the information of your government the carefully figured estimates of Messrs. Hopkins & Wright, architects, of Edmonton, for a building alone, with a capacity of five hundred hogs daily, which estimate is \$26,813 00. (Estimate Appendix II.) (Plan attached to original report.)

We also attach the estimate of Messrs. W. R. Perrin, of Chicago and Toronto, for the machinery and equipment of such building, their estimate being \$46,517.58, making the total cost in the Province of Alberta for a plant ready to commence operations \$73,330.58.

All of which is respectfully submitted.

(Signed) R. A. WALLACE, *Chairman.*

JAMES BOWER.
A. G. HARRISON.

Dated at Edmonton this Seventh day of January, A.D. 1909.

APPENDICES.

APPENDIX I.

Statement of an Ontario Factory Having a Capacity of 200 Hogs per Day.

COST OF BUILDING.

The buildings of this Ontario factory, which were constructed in 1899, cost within a few hundred dollars of \$25,000. The said buildings are of solid brick on a stone foundation, and are roofed with shingles laid in mortar. It is not likely that similar buildings could be constructed here today for less than \$32,000. Labour and material were considerably cheaper in 1899 than they are now, *e.g.*, the brick used in the construction of the buildings cost only \$6.25 laid down on the factory site.

COST OF MACHINERY.

The machinery in this particular factory cost approximately the same as the building, \$25,000. In addition to the said two items of \$25,000 each there were

the following other items of expenditure: Electric plant \$800.00, office fixtures \$400.00, and factory fixtures (including meat machines, tanks, tables, knives, steels, etc.) \$6,500, making the total cost of the factory as a going concern about \$58,000.00.

The present owner of the factory here is of the opinion that he could today construct and equip a factory of similar capacity for a similar sum, namely \$58,000. The consensus of opinion, however, appears to be that a factory of like capacity and equipment would today cost from \$70,000 to \$75,000.

CAPACITY FOR KILLING, CURING AND HANDLING PER DAY.

The factory here, constructed and equipped at the cost aforesaid, can kill, cure and handle generally 250 hogs per day. With an additional expenditure of about \$1,000 for another lard-rendering tank and another chill room its capacity could be increased to 300 hogs per day. As a matter of fact the factory here has never averaged more than 180 hogs per day the year through, this though was due to the scarcity of the supply and not to the lack of capacity. It has handled as many as 2,000 hogs in a single week, but a few such weeks would choke it up. As a rule in the factories in this province there are only two killing days during the week, thus in the factory here they kill on Tuesdays and Fridays, killing as few as 200 and as many as 1,000 hogs on each of said days. It has been found from experience that the having of certain killing days during the week is better adapted not only for the securing of a full delivery of hogs at the factory, but also for manufacturing purposes.

SYSTEM AND COST OF COLD STORAGE.

The factory here, and apparently all the best factories in the province, use the direct ammonia system of cold storage, its advantages are that it is cheaper to operate and prevents ungainly brine pipes. The Indo-British is, I am informed, the best machine, and is made or can be obtained in Montreal. During the four or five winter months the cold storage system is not required.

The total cost of the cold storage system in the factory here was about \$8,500, which includes the cost of the engine to operate it, which said engine also runs the entire factory, while the cold storage system is in use. While the cold storage system is not in use (*i.e.*, during the four or five winter months) another and less powerful engine is used to operate the factory plant, and thus a considerable saving in fuel is effected. Apart from the engine, the equipment of the cold storage system should not cost over \$2,000. While the system is in operation it must be charged with a certain proportion of the cost of running the engine room and boilers.

SUPPLY OF HOGS THROUGHOUT THE YEAR.

There is some lack of uniformity in the supply of hogs the year through, although the supply has never fallen so low as to cause the factory here to close down. Probably hogs are as scarce just now as they have been since this factory was built. The reasons for the present scarcity are the high price of feed and the low price of hogs last winter, which caused the farmers to get into a panic and rush nearly everything to the factory including many of their brood sows. As it does not take more than from seven to nine months for hogs to mature it is likely that the existing scarcity will soon right itself.

There is often a slight glut of hogs around Christmas in this province, although apparently not so marked as in Alberta, as a consequence whereof the price of hogs is apt to drop somewhat at the beginning of the year. This lowering of the price gives the factories an opportunity for several months to manufacture a supply of meat at a low cost, which meat is usually sold in a rush and at advanced prices about April when the butchers and other retailers of meat cannot keep large stocks of fresh meat on hand owing to the frost having gone. There is no reason why there should not be a uniform supply of hogs the year through, save the ingrained habits of farmers or hog-producers. Experiments conducted at the Guelph Agricultural College have shown that when hogs sell for \$5.60 per cwt. the farmer is getting \$24 per ton for his coarse grain which he has used to feed them, there is no other way in which he can make as much out of his coarse grain.

It is the large number of factories in this province and the consequent keen demand for hogs that have prevented the factory here from obtaining more than 180 hogs per day the year through.

REMUNERATION PAID MANAGER.

Salaries in this province run from \$1,200 to \$2,500, according to the capacity of the plant and of the manager. For a factory of 200 per day capacity a good manager should be obtained for at most \$1,800 per year. It is claimed though

that the \$2,500 per year man usually earns his salary. If the owner of a factory is a private individual and exercises general supervision over it himself, a manager under him would not as a rule get more than from \$1,200 to \$1,500 per year.

REMUNERATION PAID SUPERINTENDENT.

In the factories in the province the positions of superintendent and general foreman are usually combined, and the person holding the combined positions gets about \$20 per week. The person holding this position or the combined positions must be familiar with every branch of the work in the factory.

REMUNERATION PAID GENERAL FOREMAN.

If this position is not combined with that of superintendent the holder thereof gets about \$18 per week. He must be able to jump in and take charge of any department of the work in the factory should the foreman of that particular branch or department be absent.

REMUNERATION PAID FOREMEN OF DIFFERENT BRANCHES.

- | | |
|--------------------------------|------------------------|
| 1. Killing and cutting foreman | \$14 per week. |
| 2. Cellar foreman | \$15 to \$18 per week. |
| 3. Lard foreman | \$18 per week. |

The lard foreman has under him the fertilizer man, who gets about \$12 per week for looking after the manufacture and other by-products.

- | | |
|---------------------|------------------------|
| 4. Sausage foreman | \$15 to \$18 per week. |
| 5. Shipping foreman | \$10 to \$12 per week. |

If one factory gets a specially good foreman in any particular branch, other factories often try to steal such men away, so that in special cases any of the foregoing foremen, except the shipping foreman, may be found getting \$1 or \$2 per week more than the figures quoted above. Good lard foremen appear to be especially scarce.

NUMBER AND WAGES OF SKILLED MEN.

In addition to the foremen, about ten skilled men are required in a factory of 200 hogs per day capacity, who are all in the gang of the killing and cutting foreman. These skilled men receive \$12 per week and are paid for overtime. As a rule they are kept on throughout the whole year.

NUMBER AND WAGES OF UNSKILLED MEN.

About 30 unskilled men are required in a factory having a daily capacity of 200 hogs. In the 30 unskilled men are included about eight boys. Two of these unskilled men in the cellar get \$10 per week, the remaining unskilled men get from \$7 to \$9 per week, the boys get from \$4 to \$7 per week. The unskilled men or at least some of them are laid off during slack periods.

OTHER HELP REQUIRED- WITH THEIR WAGES.

1. Engineer: Must have knowledge of electric plant, refrigerating system and the cooking of lard, must be able to do his own fitting repairs, gets \$75 per month.

2. Day fireman: Gets about \$40.00 per month.

3. Night engineer: Takes care of engine and boiler and cooks lard at night; gets \$50 per month.

- | | | |
|------------------|---------------|----------------------|
| 4. Office Staff: | Accountant | \$60 per month. |
| | Two clerks | \$40 each per month. |
| | Stenographers | \$25 per month. |

NUMBER OF BUYERS.

One at every railway station from which the factory draws a supply of hogs, each buyer has a number of drovers supplying him with hogs on certain shipping days (usually two) each week. The buyers are paid by commission which is usually at the rate of 15c per cwt.

NUMBER OF SALESMEN.

Three travelling salesmen; also agents in various cities and large towns who are paid a commission of 3 per cent., the factory also paying freight if there should be a factory in the place where the agent does business.

MARKETS.

1. Local: Catered to by the travellers and the commission agents. Thirty days' credit has regularly to be given on sales made in this market.

2. Foreign: Great Britain and Ireland. Shipments are regularly made to commission houses in Liverpool and Dublin (Wiltshires are sent to England; long ribs and Cumberlands to Ireland;) commission of $2\frac{1}{4}$ per cent. paid. Sight drafts are made out for full price of goods so soon as car is loaded here. Only cured meats are exported. Cars have to be re-iced every 60 hours, so that an Edmonton plant would have to see that the railways had icing stations not more than sixty hours apart.

DIFFICULTY IN OBTAINING SUPPLY OF HOGS.

This topic has already been taken up under another heading. There is some difficulty in this province in obtaining a supply of hogs, which is largely due to the number of factories and the keen competition. Under ordinary conditions a fair supply of hogs is always forthcoming when prices are good. Abnormal conditions already mentioned on page 36 account for the present scarcity in this province.

PRICES PAID FOR HOGS.

	1907	1908
Highest.	\$8 00	\$7 50
Lowest	5 25	4.75
Average.	7 00	6 50

The foregoing prices are f.o.b. at shipping points, and to them should be added about 10c per cwt. for freight and about 50c per cwt. for shrinkage (hogs will lose on an average about 8 lbs. in transit) making the average price for 1907 about \$7.60 and for 1908 about \$7.10 per cwt.

GRADING.

Hogs are not paid for according to grade here. Grading is prevented here by the competition among the factories and the consequent scarcity of hogs. In Alberta where conditions appear to be different grading might be possible. It is certainly most desirable. Skinny or light hogs are, however, paid for at from 50c to \$1.00 per cwt. under top price. Finished sows bring about \$2.00 per cwt. under top prices. Poor sows bring \$3.00 per cwt. under top price. Boars are not accepted at all. 150 lbs. to 240 lbs. are the weight limits at shipping points, and 140 lbs. to 230 lbs. are the weight limits at the factory. Hogs over or under those limits are not wanted.

SUPPLY OF HOGS -WHERE OBTAINED.

On an average they are obtained within a radius of 50 miles from the factory. Hogs have been brought to the factory here from a point 120 miles distant. There is no objection to their being brought from a great distance provided they are not on the cars over say 24 hours. From the standpoint of the factory, provided the hog's health is not injured and the weight paid for was that at the factory, there is no objection to their being on the cars longer than 24 hours.

WORKING CAPITAL.

For a factory of 200 hogs per day capacity, catering to both local and export trade, it is estimated that a working capital of about \$64,000 is required. This amount is arrived at in the following manner:

A hog on an average will cost the factory at least \$10. 1,200 hogs are bought and killed each week, which ties up at least \$12,000 weekly. Taking into account the time it takes to manufacture the products, from seven to twenty-one days, and the thirty days' period of credit that has to be given to the local trade, also the deferred payment of a number of accounts and other hampering circumstances, it is estimated that a factory has to wait five weeks before it gets returns in cash for its output, thus it has five weeks' killing always tied up, which amounts to about \$60,000; to this must be added about \$4,000 for wages and general running expenses during the said five weeks' period.

APPENDIX II.

Estimate of Messrs Hopkins & Wright, Architects, of Edmonton

Edmonton, January 6, 1909.

The Alberta Pork Commission,
Edmonton.

We have gone carefully into the matter re erecting buildings similar to those in Brantford, Ont., for hog killing and curing purposes, with cold storage in connection, and we estimate that to erect similar buildings in this province with a capacity of 500 hogs per day, would cost \$26,813.00. This price includes hog pens, hog runways, ice house and box shed, etc., etc.

We might here mention that our Mr. Hopkins built the large abattoirs of Montreal for the killing and storage of beef, sheep and hogs with a rendering plant in connection for the manufacture of fertilizers.

Yours truly,

(Signed) HOPKINS & WRIGHT,
Assoc. Architects.

APPENDIX III.

Estimate of William R. Perrin & Company, Limited, Engineers and Machinists, Toronto, Canada.

CONTRACT FORM.

Subject to the following conditions and limitations:

This shall not become a contract binding upon this company until accepted in writing by an officer of the company; and no change of contract shall be valid until in like manner accepted.

This company undertakes only that which is herein specified. Statements made, whether verbal or written, if not embodied herein are not binding on this company.

Orders accepted cannot be countermanded except with the written consent of the company and upon terms that will indemnify it against all loss.

Quotations made are for immediate acceptance without notice. All acceptances of orders by this company are subject to delays by accidents, strikes and causes beyond its control.

The acceptance of goods when delivered is understood to constitute a waiver of all claims for damages by reason of any delay.

BOILER AND ENGINE ROOM.

One.. . C. L. B. 6-25 K.W. 1200 R.P.M. 125 V compound-wound D.C. generator, complete with standard pulley 12" dia. x 8" face, iron sliding base and generator field rheostat.

This generator will furnish you with about 420 16 C.P. 60 Watt lamps and will stand an overload of 25% for two hours without injury. From this you will see that it would be quite safe to wire for at least 500 lights; and further, it is not at all likely that you will have all the lights burning at the same time.

Wiring and 500 lights for your building.

Three... 60" x 14" horizontal tubular boilers.

One... 13" x 12" automatic McEwen engine.

One... Horizontal smoke breeching for three boilers.

One... Duplex steam pump.

One... 250 H.P. national heater.

Price .. Seven thousand four hundred and seventeen dollars and fifty-eight cents \$7,417 58

SLAUGHTER HOUSE DEPARTMENT.

One.. Horizontal hog scraping machine.

One.. Double wheel hog hoist.

Sixty feet... 1 1/2" hog bleeding rail with hangers 2 feet apart.

Sixty... Hog shackles for hog hoist.

One... Continuous hog throw-out.

One... Head washer, complete with counter shaft.

One... Perforated flat washer, complete with counter shaft.

<i>Two.</i>	Entrail cutters.
<i>4,500 feet</i>	Tracking, complete with hangers and switches.
	Pipe and fittings for your building.
<i>3,000. ..</i>	Hog trolleys.
<i>3,000.</i>	Gambrel sticks.
<i>One</i>	5 x 14 x 3 boiler iron scalding tub.

TANK ROOM DEPARTMENT.

<i>One</i>	No. 3 tankage dryer 16 feet long complete with condenser.
<i>One</i>	No. 14 hydraulic tankage press, complete with combination platform, ears, double pumps, racks and cloths.
<i>Three</i>	Rendering tanks, 4 feet diameter, 12 feet long, complete with gate valve and draw-off cocks.
<i>Three.</i>	4 x 4 x 3' 6" boiler iron slush vats.

LARD REFINING DEPARTMENT.

<i>One</i>	27" 30 plate, filter press, complete with cocks for refining lard.
<i>One</i>	5½" x 3½" x 2" duplex steam pump.
<i>One</i>	8 x 12 x 10 blowing engine.
<i>One</i>	30 Tierce clay kettle with jacketed cone bottom.
<i>One</i>	30 Tierce receiving kettle with jacketed flat bottom.
<i>One</i>	30 Tierce triple agitator.

SAUSAGE DEPARTMENT.

<i>One</i>	No. 62 Enterprise meat chopper.
<i>One</i>	No. 32 silent meat cutter.
<i>One</i>	100 pound steam sausage stuffer.

ELEVATORS FOR BUILDING.

<i>One</i>	6 x 6 worm elevator.
<i>One</i>	5 x 6 friction elevator.
	All necessary shafting and belting.
	All the above machinery complete, erected in your building, ready for operation. \$20,730.00.

REFRIGERATION PLANT.

Refrigeration plant to take care of 3,000 hogs per week, that is killing three times per week, 1,000 hogs each kill. To be composed of the following parts:

<i>One</i>	Steam engine driving direct.
<i>One</i>	50 ton ammonia compressor.
<i>One</i>	50 ton ammonia condenser.
<i>One</i>	Liquid receiver.
<i>One</i>	Air cooler for the chilling of the hogs.

All necessary expansion pipes for the cooling of the curing and other rooms.

All ammonia connections between the different parts.

First charge ammonia and calcium.

Delivered in Alberta and erected complete for the sum of Eighteen thousand, three hundred and seventy dollars (\$18,370.00).

TOTAL.

Operating machinery	\$ 20,730. 00
Engine and boiler rooms	7,417 58
Refrigeration plant	18,370 00
	\$46,517 58

III.—CROPS.

WEATHER CONDITIONS AND STATISTICS.

The supervision of the voluntary meteorological service in the province started by the Territorial Department has been continued under the direction of the Dominion Meteorological Office at Toronto. During the year a number of new observers were appointed and the following is a complete list of all stations in operation in 1908:

METEOROLOGICAL STATIONS IN OPERATION, 1908.

STATION	Latitude	Longitude	Altitude	OBSERVER
	°	°		
Alix	52 24	113 10	2870	A. A. Wright.
Banff	51 10	115 34	4542	N. B. Sanson.
Blackfalds	52 24	113 47	2876	G. L. Gregson.
Bon Accord	53 53	113 24	2100	John Schofield.
Bardo	53 17	112 47		J. E. Jevning.
Beaver Hills W	53 43	113 2		Clement Hoyler.
Bismark	52 41	113 53		Henry Nagel.
Bruderheim	53 48	112 55		Chas. A. Albrecht.
Bittern Lake	53 4	113 0	2860	E. C. Roper.
Calgary	51 2	114 2	3389	Miss M. Bradin.
Cardston	49 12	113 18		Martin Woolf.
Coutts	49 0	111 57		N. R. Oliver.
Clover Bar	53 37	113 23		James Drysdale.
Conjuring Creek	53 12	113 47		J. A. Sangster.
Didsbury	51 40	114 8	3300	C. S. Peterson.
Dunvegan	55 56	118 35	1302	F. J. H. Bedson.
Dorence	52 41	112 52		C. Nixon.
Edmonton	53 33	113 30	2158	H. S. Young.
Fort Vermilion	58 27	116 3	950	Rev. A. S. White.
Gray Hill	52 15	113 35	2795	Robert Gray.
Gleichen	50 59	112 54	2952	Rev. Canon Stocken.
Grassy Lake	49 50	111 18	2652	D. K. Shawsen.
Hillsdown	52 11	113 29	2940	R. E. Fiske.
High River	50 35	113 53	3394	Louis M. Roberts.
Heather Brae	52 56	112 40		A. W. Fleming.
Islay	53 24	110 32		J. R. Giles.
Innisfail	52 2	113 56	3087	Henry George.
Josephsburg	49 45	114 16		James Robinson.
Jumping Pound	51 5	114 33		Cecil E. Byron.
Knechill	51 31	113 22	2800	Alex. Wyndham.
Kumball	49 5	113 12		E. D. Mallery.
Lawrence	50 16	113 26		A. D. Meacham.
Lethbridge	49 42	112 51	3240	C. B. Bowman.
Lacombe	52 28	113 44	2783	C. E. Craig.
Lacombe (2)	52 28	113 44		P. J. Crow.
Leavings	49 52	113 31	3263	Andrew Russell.
Medicine Hat	50 1	110 37	2161	Walter Crosskill.
Macleod	49 41	113 24	3090	Officer Commanding R.N.W.M.P.
Macleod (2)	49 44	113 24		N. J. Stapleton.
Magrath	49 26	112 51	3210	W. J. Hopkin.
Mayton	51 51	113 45		A. M. Bauman.
Morinville	53 49	113 39		O. N. Laval.
Okotoks	50 43	113 59		Henry R. Harper.
Pincher Creek	49 30	113 58	3750	G. W. Gill.
Pakan (Victoria)	54 0	112 31		Gordon A. Mitchell.
Peace River Crossing.	56 15	117 15		H. A. George.
Pekisko	50 26	114 11	3394	F. R. Pike.
Ponoka	52 10	113 34	2633	John Hagemann.
Red Willow	52 27	112 30		Mrs. W. S. Fulton.
Shaftesbury				Miss L. Millen.
Sion	53 54	114 15		Geo. K. Cottman

METEOROLOGICAL STATIONS IN OPERATION, 1908.—*Continued.*

STATION	Latitude	Longitude	Altitude	OBSERVER
Stirling	49 31	112 32	.	Theo. Brandley.
Saddle Lake	54 0	111 44	.	J. W. Carroll.
Taber	51 0	113 0	.	Westlake Bros.
Three Hills Creek.	51 30	113 11	3190	W. E. Cutler.
Vermilion	53 21	110 51	.	D. J. Perry.
Wetaskiwin	52 58	113 23	2480	J. H. Walker.
Waitefield	53 29	111 38	2000	Thomas B. White.
Wabamun	53 29	114 25	.	John C. Haddock.

MONTHLY WEATHER REVIEW, 1908.

JANUARY.—While the month began with temperatures below zero, yet by the 5th so quickly did the weather moderate that the mean temperature for the month was much above the average. Precipitation all over the province amounted to less than one-half of the normal amount.

Edmonton.—Snow varied from two to five inches in depth. Mild weather reported from the 8th, as prevailing; bright sunshine; stock doing well; plenty of feed; sleighing poor on account of paucity of snow.

Calgary.—Favoured with mild conditions with an excess over the average of the possible duration of sunshine, until towards the end of the month, when it became colder going down to zero at nights.

Medicine Hat.—Generally the weather was pleasant and towards the middle of the month exceedingly mild, a maximum of 48° being registered. Range cattle in prime condition.

FEBRUARY.—The weather while of a fluctuating nature in the beginning, altered in its conditions towards the 22nd and remained continuously mild throughout the province until the end of the month. Precipitation was slightly less than average in Eastern Alberta, but elsewhere it was in excess. The least deviations from averages pertained to the south-west portion of the province.

Edmonton.—Generally cold and alternating above and below zero until towards the middle of the month. Snow averaging 3 inches in depth through district. Ducks seen on the 21st. Willows in flower on the 20th. Sleighing poor.

Calgary.—During the first week and the last few days of the month the weather was cold, though *ad interim* chinook winds were much in evidence and conditions exceptionally mild.

Medicine Hat.—Changes took place rapidly during the month and snow-storms were local.

MARCH.—During the first eight days or so the weather was cold, but subsequently the weather alternately varied and at times it was comparatively warm. Precipitation occurred throughout the province, principally snow, but no heavy falls were reported.

Edmonton.—Light snows and clouded skies existed off and on during the month, the coldest weather being in the first part of the month. Ice still solid in rivers. Sleighing over, cattle reported to have wintered well. Gophers seen on the 10th inst.

Calgary.—Reported as being the coldest and most wintry month of the season. High easterly winds very frequent, about six inches of snow fell during the month, but almost disappeared by the end of the month.

Medicine Hat.—Mild weather, generally, with lower temperatures towards the end of the month. Snowfall light and beneficial.

APRIL. The weather of this month was much more favourable than at the same time the preceding year. Characterized by a high mean temperature except towards the southern part of the province, which was visited with frequent showers.

Edmonton.—Practically dry all through with blustery winds. Bright sunshine, and as the month wore on signs of the times were seen in the appearance of the birds and the disappearance of the snow which laid the ground bare on the 7th. Wheat about all in and fall wheat, where sown, looking well.

Calgary.—Warm and bright weather, though showers at times and visited with occasional frosts, resulting however in no damage.

Medicine Hat.—Fine and dry with some high temperatures. Ground in excellent condition as a result and farmers busy seeding.

MAY.—The mean temperature was generally above the average and with the exception of a frost occurring in some localities, about the end of the month, fortunately having no disastrous results, the weather on the whole was ideal for seeding.

Edmonton.—Agricultural conditions during May were very satisfactory. Frequent showers of rain doing much good. Seeding finished with a larger acreage than previous year. Lengthened sunshine. River unexpectedly rose ten feet on the 20th but abated greatly towards the end of the month. Steady winds all along; mostly from south-east.

Calgary.—The month throughout was mild and calm. Rainfall heavy, being over four inches. Grain and roots well advanced. Rapid growth all over district. Outlook encouraging but heat and sunshine needed.

Medicine Hat.—Weather fine and warm. Crops coming on well and in a flourishing condition. Rainfall satisfactory, resulting in much good around the district.

JUNE.—Reports received concur in the distribution of precipitation and over the central and northern portions of Alberta and Saskatchewan the fall was generally in excess of twice the average amount, while with local exceptions the amount of rain recorded elsewhere was much less than normal.

Edmonton. Climatic conditions in and around this district were characterized by rainfall and several hailstorms but very little damage. Crops looking well but bright warm weather needed. Wheat already twelve to thirty inches high, barley showing up in places.

Calgary.—A very wet month with hailstorms. Crops making good progress and little or no damage done to same through unusual severity of weather.

Medicine Hat.—Fine warm weather and good rainfall, well distributed over month. Crops in general look excellent.

JULY.—Typical weather prevailed and the mean temperature was above average over greater part of Alberta. Precipitation was much below average in nearly all the districts.

Edmonton.—Bright warm month, no storms; harvesting operations proceeding apace. Heavy crop of hay; excellent crop of wild fruits.

Calgary.—Good month for crops. Haying general. Prospects of harvesting results satisfactory.

Medicine Hat.—Temperature high all through month, with intermittent light rainfalls. In some districts spring sown crops scorched.

AUGUST.—Weather of this month cooler than the average. Frosts occurred over large sections of the country but serious damage reported as resulting from same.

Edmonton.—With a duration of 234 hours of bright sunshine and warmth of weather the first part of the month harvesting operations proceeded rapidly in haymaking and fall wheat crops. Frost on the 20th and 21st affected garden produce but no damage to grain crop reported.

Calgary.—Month very favourable for harvesting operations and reports satisfactory from all over district.

Medicine Hat.—The month generally warm and summerlike, though the weather became cooler towards the end of the month. Fall sown wheat showing up well. Grain cutting finished.

SEPTEMBER.—Conditions of the weather throughout Alberta remarkably fine, no storms and a high mean temperature. Harvesting reports all that could be desired and returns from nearly all localities eminently satisfactory. Snow on the ground all over the northern part of the province to a depth of from six to eight inches, diminishing to little or none in southern Alberta.

Edmonton.—Lengthened duration of bright sunshine and all outdoor work carried on under most favourable circumstances; threshing well on; yield good average and all stock in good condition. Railroad construction and building operations proceeding apace owing to active weather.

Calgary.—Reports received indicated very satisfactory state of affairs. Weather favourable and harvesting in and around the district very active.

Medicine Hat.—Fine, dry weather continued through September with some high winds, harvest work finished; cattle shipment large; quality excellent.

OCTOBER.—An unusual amount of precipitation marked the weather all through. A light covering of snow was on the ground in northern Alberta.

Edmonton.—Snowfall with depth of two inches on the ground. Foliage off and trees bare by the 8th. Geese flying south up to the 20th. Early frosts and snow interfering with railway construction.

Calgary.—Cold weather prevailed with easterly winds, gloomy weather. Root crops good and all harvested, building operations proceeding.

Medicine Hat.—Weather fine and cold with light rains and snow greatly assisting fall ploughing.

NOVEMBER. —Mild weather existed all over the province with little or no precipitation.

Edmonton. —Up to almost the end of the month the weather was exceptionally favourable. Stock in fine condition. Hay supply plentiful. Excellent sleighing. The rain preceding the snow put the roads into excellent shape for transportation.

Calgary. All throughout the month the weather was extremely mild, chinook winds being prevalent; temperature registered below zero on two occasions. Outside work continued up until the 27th.

Medicine Hat.—Fine open weather during the month. Conditions very favourable for the ranges, feed being plentiful and cattle in good condition.

DECEMBER. —Up to the middle of the month the conditions of the weather all that could be desired; subsequently it became much colder and wintry weather prevailed over Alberta.

HAIL INSURANCE, 1908

Number of contracts . . .	3,024
Number of claims for indemnity . . .	666

Acreage Insurance.

Wheat . . .	52,365
Oats . . .	105,998
Barley . . .	25,807
Flax . . .	1,347
Speltz . . .	13
	185,530

Acreage fully insured . . .	173,410
Acreage partly insured . . .	12,120
	185,530

Amount paid for premiums at rate of 15c per acre . . .	\$26,011 41
Indemnity paid. . .	69,465 31

Expenses.

Clerical services . . .	\$ 1,291 29
Stamps, post cards, etc . . .	147 50
Examiners, services and expenses . . .	2,453 18
	\$3,891 97

Estimated acreage under crop . . .	740,651
Approximate proportion of total acreage under crop insured . . .	25 04
Approximate average indemnity paid per acre acreage damage . . .	\$1 67½
Number of acres damaged . . .	41,434
Percentage of insured acreage damaged . . .	23 10%

CROP STATISTICS.

Climatic conditions during the year were perhaps the most favourable enjoyed by the agriculturist for many years. The spring opened up under exceptionally fine conditions and was some two weeks in advance of the previous year. With a mild and genial atmosphere, the soil was in excellent condition and an ample supply of moisture was in the ground. The seeding was carried

out under most auspicious circumstances and completed much earlier than usual.

June was a very wet month, but no disastrous effects resulted to the crops which were making excellent progress. Towards the middle of July the crops looked all that could be desired and fall wheat was being cut. September proved a very good month, the conditions being highly suitable for completing and garnishing up crops throughout the province.

The total number of crop correspondents was 632, the number of threshers reporting for 1908 totalled up to 890 as against 630 operating in 1907.

CROP DISTRICTS.

District No. 1.—Area 2,872 square miles. Cardston District. Includes country adjacent to the line of St. Mary River Railway from Magrath to Cardston and to the Alberta Railway and Irrigation Co.'s line from Tyrell's lake to Coutts.

District No. 2.—Area 5,220 square miles. Claresholm, Granum, Macleod, Stavely and Pincher Creek District. Includes country adjacent to the Crow's Nest Branch of the Canadian Pacific Railway from St. Mary's westward to the Rocky Mountains, and to the Macleod Branch from Macleod north to Township 14.

District No. 3.—Area 4,878 square miles. Lethbridge, Raymond and Stirling District. Includes country adjacent to the Crow's Nest Branch of the Canadian Pacific Railway from Bow Island westward to St. Mary. Mostly ranching country.

District No. 4.—Area 4,284 square miles. DeWinton, High River, Nanton and Okotoks District. Includes country adjacent to the Macleod Branch of the Canadian Pacific Railway from Midnapore south to Township 15.

District No. 5.—Area 9,268 square miles. Cochrane, Calgary, Crossfield and Gleichen District. Includes country adjacent to the main line of the Canadian Pacific Railway from Langevin westward to the Rocky Mountains.

District No. 6.—Area 13,680 square miles. Medicine Hat District. Includes country adjacent to the main line of the Canadian Pacific Railway from Walsh to Langevin and extending northward to Townships 38. Almost entirely ranching country.

District No. 7.—Area 6,822 square miles. Carstairs, Didsbury and Olds District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Crossfield to Bowden, extending to Range 11, west of the fourth meridian, and westward to the Rocky Mountains.

District No. 8. Area 4,709 square miles. Bowden and Innisfail District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Bowden to Penhold.

District No. 9.—Area 2,917 square miles. Red Deer District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Penhold to Blackfalds.

District No. 10. Area 2,412 square miles. Lacombe District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Blackfalds to Morningside and to the Lacombe Branch from Lacombe to Stettler.

District No. 11. Area 2,750 square miles. Ponoka District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Morningside to Hobbema.

District No. 12. Area 2,520 square miles. Wetaskiwin District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Hobbema to Millet and to the Wetaskiwin Branch from Wetaskiwin to Daysland.

District No. 13. Area 8,388 square miles. Vermilion District. Includes country adjacent to the Canadian Northern Railway from Chipman to Lloydminster. Greater part unsettled.

District No. 14.—Area 2,250 square miles. Fort Saskatchewan, Leduc and Strathcona District. Includes country adjacent to the Edmonton Branch of the Canadian Pacific Railway from Millet to Edmonton and to the Canadian Northern Railway from Edmonton to Fort Saskatchewan.

District No. 15.—Area 2,808 square miles. St. Albert and Stony Plain District. Includes that territory bounded on the south by the North Saskatchewan River, on the north by Townships 60, extending eastward to Range 25, west of the fourth meridian, and westward to Range 5, west of the fifth meridian.

District No. 16.—Area 5,184 square miles. Victoria District. Includes that territory between Townships 55 and 60 inclusive, extending eastward to the fourth meridian and westward to Range 24, west of the fourth meridian.

The usual summary tables showing the acreage sown to the various grains, the yield per acre and the average yield for the past four years are given below. Following this is a table showing the average yields of the leading grains for the past eleven years:

CROP STATISTICS.

	SPRING WHEAT				WINTER WHEAT				OATS				BARLEY			
	Bushels	Acr'ge	Yield per acre	Aver- age yield	Bushels	Acr'ge	Yield per acre	Aver- age yield	Bushels	Acr'ge	Yield per acre	Aver- age yield	Bushels	Acr'ge	Yield per acre	Aver- age yield
1. 1905	33,713	2,073	16.26	21.35	199,841	11,922	16.76	26.43	121,896	4,082	29.86	37.64	14,510	565	25.68	27.12
1906	97,503	4,189	23.27		164,999	6,771	24.36		353,145	7,552	46.76		44,538	1,208	36.86	
1907	110,933	5,355	20.71		377,520	12,729	29.65		316,461	8,842	35.79		14,295	652	21.92	
1908	258,159	10,250	25.18		416,896	11,928	34.95		419,970	11,000	38.17		20,089	836	24.02	
2. 1905	281,780	13,998	20.13	21.48	249,939	9,566	26.12		450,063	13,068	34.44		26,060	1,089	34.44	
1906	624,754	23,992	26.04		563,590	24,355	23.14		1,114,447	29,232	38.12		61,512	2,436	25.25	25.61
1907	897,433	43,236	20.75		595,261	25,094	23.72		617,478	18,707	33.00		30,135	1,493	20.19	
1908	1,427,371	75,045	19.02		916,380	32,820	27.92		905,675	25,417	35.63		42,737	1,892	22.58	
3. 1905	76,647	8,128	9.43	18.11	46,224	4,190	11.03		77,266	3,688	20.95		4,079	273	14.94	
1906	202,444	9,280	21.79		129,459	7,745	16.71		303,437	8,313	36.50		16,913	602	28.09	22.89
1907	255,215	11,856	21.34		123,067	4,817	25.54		194,415	5,412	35.92		8,875	416	21.33	
1908	422,537	21,263	19.87		132,544	4,324	30.65		337,151	11,312	29.80		33,859	1,245	27.19	
4. 1905	51,031	1,783	28.62	22.66	99,042	3,006	32.94		1,110,902	22,545	49.27		99,259	3,266	30.39	
1906	82,727	3,611	22.90		174,457	12,413	14.05		2,132,463	49,325	41.03		163,718	5,207	31.44	28.23
1907	137,740	7,139	19.29		444,507	24,217	18.35		950,096	29,928	31.74		87,774	3,470	25.29	
1908	254,910	12,851	19.83		930,349	31,601	29.44		2,739,525	64,367	42.56		208,288	8,066	25.82	
5. 1905	26,900	793	33.92	27.48	21,599	671	32.18		477,221	10,991	43.41		58,308	1,821	32.01	
1906	25,341	1,057	23.97		38,879	1,474	26.37		687,487	15,142	45.40		75,513	2,607	28.96	26.63
1907	19,687	718	27.41		54,355	3,478	15.62		412,870	14,288	28.89		41,321	2,313	17.86	
1908	45,944	1,864	24.64		194,628	6,187	31.45		1,095,696	27,073	40.46		114,248	4,132	27.65	
6. 1905	60,876	3,834	15.87	12.72	1,902	94	20.23		162,338	4,970	32.86		21,974	822	26.73	
1906	145,946	7,876	18.53		2,762	67	41.22		135,462	4,538	29.85		19,774	816	24.23	19.08
1907	76,300	6,826	11.17		17,575	1,036	16.96		89,185	4,308	20.70		9,174	567	16.17	
1908	44,694	8,423	5.30		8,848	327	27.05		56,751	3,709	15.30		3,164	344	9.20	

DEPARTMENT OF AGRICULTURE

CROP STATISTICS—Continued

	SPRING WHEAT				WINTER WHEAT				OATS				BARLEY			
	Bushels	Average per acre	Yield per acre	Average yield	Bushels	Average per acre	Yield per acre	Average yield	Bushels	Average per acre	Yield per acre	Average yield	Bushels	Average per acre	Yield per acre	Average yield
7. 1905	13,172	542	24 30	23 40	31,348	1,110	28 24	29 13	594,770	14,941	39 79	36 12	181,198	6,216	29 15	25 48
1906	66,556	3,082	21 59	23 40	168,791	6,349	26 58	29 13	965,423	26,719	36 13	36 12	238,433	8,484	28 10	
1907	19,533	790	24 73	23 40	174,136	5,449	31 95	29 13	815,982	28,611	28 51	36 12	104,029	3,425	19 17	
1908	41,534	1,805	23 00	23 40	306,555	10,299	29 76	29 13	1,656,264	41,313	40 06	36 12	242,312	9,501	25 50	
8. 1905	20,942	910	23 01	17 94	573	22	26 04	22 65	396,688	9,639	41 15	35 38	107,321	3,332	32 20	26 69
1906	34,347	2,209	15 54	17 94	8,600	312	27 56	22 65	423,977	9,977	42 49	35 38	108,006	3,602	29 98	
1907	4,714	364	12 96	17 94	8,046	908	8 86	22 65	271,620	11,224	24 20	35 38	43,683	2,287	19 10	
1908	17,978	889	20 22	17 94	37,299	1,327	28 15	22 65	465,832	13,823	33 70	35 38	88,620	3,775	25 47	
9. 1905	11,309	446	25 35	20 65	4,700	172	27 32	24 27	387,533	10,078	38 45	35 84	85,253	3,030	28 13	26 21
1906	28,533	1,253	22 78	20 65	18,581	663	28 02	24 27	469,638	11,820	39 73	35 84	90,438	2,851	31 72	
1907	28,761	1,889	15 26	20 65	29,898	1,325	22 56	24 27	291,067	9,584	30 37	35 84	38,546	1,728	22 36	
1908	78,356	4,981	19 20	20 65	48,953	4,081	19 20	24 27	666,834	19,148	34 82	35 84	83,992	3,709	22 64	
10. 1905	27,431	948	28 82	21 74	2,954	118	25 03	24 24	791,211	20,247	39 07	35 22	120,438	4,083	29 49	26 61
1906	48,784	2,432	20 01	21 74	3,544	147	24 10	24 24	641,577	17,860	35 92	35 22	104,813	3,537	39 63	
1907	76,245	4,269	17 86	21 74	15,372	645	23 82	24 24	609,861	20,652	29 53	35 22	59,973	2,753	23 96	
1908	191,156	9,438	20 24	21 74	36,527	1,520	24 02	24 24	804,134	23,747	36 38	35 22	114,155	4,497	25 38	
11. 1905	85,789	3,238	26 49	21 53	1,110	46	24 11	25 82	650,838	15,171	40 90	35 96	151,646	5,518	28 02	25 07
1906	171,197	7,258	23 58	21 53	952	36	26 44	25 82	886,338	24,497	36 18	35 96	168,982	6,155	26 17	
1907	120,330	7,174	16 77	21 53	15,142	498	30 42	25 82	662,844	20,783	31 89	35 96	75,566	3,705	20 39	
1908	309,008	16,033	19 27	21 53	6,967	312	22 33	25 82	1,097,753	31,462	34 89	35 96	145,005	5,567	25 70	
12. 1905	144,755	5,355	27 03	21 11	196	10	19 60	19 73	1,129,417	26,839	42 08	35 97	184,502	6,030	30 50	25 13
1906	141,382	6,758	22 40	21 11	6,104	296	20 62	19 73	1,075,035	29,937	34 74	35 97	148,971	5,719	26 04	
1907	80,918	5,156	15 69	21 11	5,083	272	18 72	19 73	850,750	29,223	29 11	35 97	99,464	5,225	19 03	
1908	129,291	6,686	19 33	21 11	5,215	261	19 98	19 73	1,049,985	27,668	37 94	35 97	100,721	4,034	24 96	

CROP STATISTICS—Continued.

		RYE			FLAX			SPELTZ		
		Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels
1	1905	2,647	143	18 51	15 75	4,133	261	15 83	15 83	391
	1906	117	9	13 00						
	1907									
	1908									
2	1905	197	15	13 13	11 23	70	9	7 77	9 14	477
	1906					17,187	1,467	11 71	9 14	2,592
	1907	28	3	9 33		32,431	3,546	9 14		831
	1908					7,271	913	7 96		3,077
3	1905					225	6	37 50	14 68	
	1906	170	8	21 25	14 63	4,046	399	10 14		1,669
	1907	250	25	10 00		3,395	678	5 00		418
	1908	379	30	12 63		14,097	2,321	6 07		847
4	1905					2,491	206	12 09	10 02	949
	1906	41	2	20 05	20 05	7,310	575	12 71		591
	1907					8,013	1,073	7 47		
	1908					14,866	1,905	7 80		
5	1905					717	25	28 64	14 79	22
	1906	409	26	15 73	18 07	1,134	94	12 06		2
	1907					119	23	5 17		
	1908	735	36	20 41		8,758	658	13 28		2,764
6	1905					1,048	67	15 64	8 94	343
	1906	237	14	16 92	10 96	744	85	8 75		1,059
	1907	5	1	5 00		776	121	6 43		5
	1908					143	29	4 93		66

7	1905	2,109	132	15 97	15.48	721	68	10 00	8.88	964	29	33.25	25.69
	1906	1,486	125	11 85		1,867	187	9 08				18.13	
	1907	969	52	18.63		2,974	429	6 93		1,215	67		
8	1905	229	20	11.45									
	1906	542	30	18.06									
	1907	1,237	36	34.36	21.29	37	7	5 30	5.30				
9	1905	756	43	17.58	16.89	215	11	19 54	9.21	136	7	19 42	21 73
	1906	1,590	86	18 59		1,056	154	6.85		15	1	15 00	
	1907	2,263	156	14 50		534	140	3 81		312	13	24.00	
	1908					3,460	521	6.64		57	2	28 50	
10	1905	618	30	20.60	21.58	1,127	52	21 67	9.89	95	3	31 66	25.03
	1906	2,404	101	24 81		984	230	4 27		516	12	43 00	
	1907	2,418	125	19 34		2,730	524	5 20		1,082	45	24 04	
	1908					1,202	10,131	8 42		290	7	41.42	
11	1905	10,081	397	25 39	21.57	530	47	11 27	7.81	899	28	32.10	16.06
	1906	3,279	153	21 50		2,207	274	8.54		481	29	16 58	
	1907	12,348	693	17 81		722	167	4 32		117	14	8 35	
	1908					2,303	323	7 13		217	30	7.23	
12	1905	1,541	57	27.03	19.87	687	56	12 26	8.35	723	36	20 08	30.70
	1906	140	10	14 00		501	54	9 27		1,383	42	32 92	
	1907	130	7	18.57		256	65	3 95		313	8	39.12	
	1908					1,607	203	7.91					
13	1905	960	142	67.60	31.72	401	25	16 04	10.27	220	5	44 00	32.07
	1906	26	3	10 40		1,180	112	10 53		1,558	47	33.10	
	1907	1,029	60	17.15		780	123	6.34		268	13	20 61	
	1908					3,736	457	8.17		367	12	30.58	
14	1905	1,087	40	27.17	26.11	144	8	18 00	15.33	82	2	41 00	41.40
	1906	376	15	25.06		48	3	16.00		192	4	48.00	
	1907					12	1	12.00					
	1908									352	10	35.20	

CROP STATISTICS—Continued.

	RYE				FLAX				SPELTZ			
	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield
15												
1905				4 37	56	7	8 00	7 14				
1906		13	4 37		151	24	6 29		28	1	28 00	28 00
1907	58											
1908												
16												
1905					49	2	24 50		495	32	15 46	
1906	1,380	70	19 71	20 10	144	8	18 00	16 17	369	17	21 70	18 58
1907												
1908	738	36	20 50		6	1	6 00					

SUMMARY of the Acreage and Yields of the Leading Grains in Alberta during the last 11 years.

	Year	Crop area in acres	Total yields in bushels	Average yield per acre	Average yield
Spring Wheat	1908	212,677	4,001,503	18 81	20 77
	1907	123,935	2,261,610	18 25	
	1906	115,502	2,664,661	23 07	
	1905	75,353	1,617,505	21 46	
	1904	47,411	786,075	16 58	
	1903	59,951	1,118,180	18 65	
	1902	45,064	850,122	18 86	
	1901	31,890	857,714	24 58	
	1900	30,361	583,806	19 22	
	1899	35,090	833,123	23 74	
	1898	31,348	792,417	25 27	
Winter Wheat	1908	104,956	3,093,422	29 47	22 88
	1907	83,965	1,932,925	23 02	
	1906	61,625	1,301,359	21 11	
	1905	32,174	689,019	21 41	
	1904	8,296	152,125	18 33	
	1903	3,440	82,418	23 95	
Oats	1908	431,145	15,922,974	36 93	36 47
	1907	307,093	9,247,914	30 11	
	1906	335,728	13,136,913	39 12	
	1905	242,801	9,514,180	39 18	
	1904	180,698	5,609,496	31 04	
	1903	162,314	5,187,511	31 95	
	1902	118,997	3,776,976	31 74	
	1901	104,533	4,253,284	40 68	
	1900	77,616	2,625,581	33 82	
	1899	51,929	2,180,441	42 16	
	1898	38,964	1,734,197	44 50	
Barley	1908	77,867	1,949,164	25 03	26 49
	1907	54,698	1,082,460	19 78	
	1906	73,588	2,157,957	29 32	
	1905	61,830	1,773,914	27 36	
	1904	61,549	1,608,241	26 12	
	1903	42,219	1,077,274	25 51	
	1902	22,201	473,108	21 31	
	1901	13,483	442,381	32 81	
	1900	9,256	234,971	25 37	
	1899	6,655	178,395	26 80	
	1898	8,742	279,826	32 00	
Flax	1908	9,262	73,763	7 96	10 83
	1907	6,488	50,002	7 87	
	1906	3,647	38,491	10 65	
	1905	581	8,337	14 34	
	1904	367	5,003	13 63	
	1903	830	7,753	9 34	
	1902	373	4,476	12 00	
Speltz	1908	484	9,697	20 03	23 67
	1907	151	3,346	22 15	
	1906	385	11,423	29 67	
	1905	178	4,419	24 82	
	1904	112	2,426	21 66	
Rye	1908	1,250	22,625	18 10	18 57
	1907	591	10,595	17 91	
	1906	1,139	22,462	19 70	

Total crop area, 1908, 837,641 acres.
Total crop area, 1907, 576,821 acres.
Total crop area, 1906, 591,614 acres.
Total crop area, 1905, 415,917 acres.
Total crop area, 1904, 298,433 acres.

NOTE.—All yields shown are from threshers' measure and not by weight.

HARVEST HELP.

The promise of an abundant crop of winter wheat throughout the southern portion of the province caused a good deal of anxiety as to whether there would be sufficient help available to take off the crop. Arrangements were accordingly made with the railway authorities to allow harvest excursionists to proceed to the province at very low rates. The result was that a large number of harvest hands came to this province, and the Department sent a representative to Winnipeg to oversee the distribution of this help in order that there might be no congestion at any point and that all points should be supplied with some extra help. This work was done by Mr. K. Forbes Reid, of Edmonton, and proved satisfactory in every way.

IV.—SEED GRAIN.

Early in the fall of 1907 it was brought to the attention of the Department that there was going to be a scarcity of good seed for spring seeding on account of the unfavourable climatic conditions which existed throughout the whole of the northern hemisphere, and which was particularly felt by the settlers in the newer districts in this province. It will be remembered that the winter of 1906-7 was unusually long and severe. The cold weather continued into March and April, making a very backward spring with seeding nearly a month late. The growing season was not favoured with as much warmth and sunshine as is usual with the result that ripening was greatly retarded and much of the spring grown grain was not matured when severe frosts visited many localities.

A study of the situation showed that in the central portion of the province and as far south as High River the oat crop would not be very reliable for seed,—barley and spring wheat were also injured but not so generally as oats. An estimate of the 1906 crop still in farmers' hands and suitable for seed purposes was much too small to meet seed requirements of the following spring. It was, therefore, apparent that some concerted effort was necessary if sufficient seed grain were to be available at prices which were not extortionate. Appeals were made to the Department to take up the matter, arrange for supplies, delivery of same and for financing the cost until farmers were in position to pay for the grain which they obtained.

The situation was complicated in that many of those requiring seed grain were homesteaders not having the patent for their land and, therefore, not in a position to give any security on their land to the Provincial Government. The matter was referred to the Department of the Interior at Ottawa as one coming within its jurisdiction. This Department expressed its willingness to look after those on homesteads but considered it the duty of the province to look after the needs of those who had secured their patents. It was readily seen

that there would be a great deal of confusion and trouble were there two agencies at work distributing grain. When negotiations had proceeded thus far the Deputy Minister was called to Ottawa to confer with the officials of the Department of the Interior and representatives of the Saskatchewan Government as to a possible method for joint action. As a result of this conference the Federal Government agreed to distribute seed grain for the provinces to those having received their patents on condition that the provinces became directly responsible for the repayment of the seed grain. This arrangement was duly completed. The officials of the Department of the Interior took charge of the accounting and distributing of the grain, while the warehouse commissioner of the Department of Trade and Commerce, Mr. C. C. Castle, took charge of the most important work of purchasing the grain. This involved an enormous amount of work and great responsibility, as he had charge of the expenditure of very large sums of money. He discharged his duties in a very efficient manner and the thanks of the western farmers are due to Mr. Castle. Mr. G. H. Clark, of the Seed Branch of the Department of Agriculture at Ottawa, and his staff took an active part in the work of testing samples for vitality and weeds. Great credit is due to all connected with the work for it involved long and arduous hours.

In transactions where such a variety of grades of grain were bought, cleaned, sacked and shipped for distribution and where there were necessarily many persons concerned in the handling and distribution of the grain it must be that some mistakes occur. It is pleasing to be able to say that the mistakes were few. The assistance to the farmer was timely and many a man had a good crop who otherwise would have had only a meagre one or at least one very much reduced in area. In the work of distributing seed grain the railway companies gave a great amount of assistance. In the first place exceedingly low rates were given for handling all seed grain and in the second place the station agents acted as distributing agents.

The following is a statement showing by Dominion Land Districts the number of farmers to whom grain was distributed:

LAND DISTRICT	SETTLEMENT BY			
	LIENS	MORTGAGES	CASH SALES	TOTAL
Edmonton .	1,125	1,047	144	2,316
Lethbridge . .	90	27	13	130
Red Deer . . .	216	314	24	554
Calgary . . .	119	219	66	484
Total	1,630	1,607	247	3,484

In addition to the above applications were received from 523 persons and later cancelled for one reason or another.

The total amount of grain of the various grades distributed in the province is given in the following table:

STATEMENT OF GRAIN DISTRIBUTED AT RAILWAY STATIONS IN ALBERTA

STATION	WHEAT				OATS				BARLEY
	1 Nr.	2 Nr.	3 Nr.	No. 4	1 Wh.	2 Wh.	3 Wh.	Imp't'd	
Airdrie			85					572	50
Alix			9			558		120	306
Bawlf		344	394			675	1,866	1,392	
Bassano						60			
Blackfalds			8			270			62
Bowden			289			1,920		1,645	351
Bow Island	60					110			
Bruderheim								115	
Calgary			44					2,709	378
Canrose		522				1,634		1,858	740
Canmore								25	
Cardston		55			116				
Carstairs			64					2,001	120
Cayley								1,822	
Chipman			8					120	14
Claresholm	470					265		25	
Cochrane			75			1,200		1,781	401
Coleridge	46					125			
Cowley		95				736			
Crossfield	100		65					700	160
Daysland	1,060	776				810		2,526	512
Didsbury			202			1,800		1,200	854
Edmonton			500					3,590	353
Fort Saskatchewan	524							4,832	748
Gleichen			30			85		100	
Granum		120				1,690		12	
Grassy Lake	15					10			
Hardisty			522					3,201	200
High River		680				8,639		774	
Innisfail			680			8,466		149	1,789
Innisfree			1,122			1,800		267	258
Islay			1,122					4,000	461
Irvine	442					717		10	
Killam		306	710			582	1,200		180
Kitscoty			980					1,605	242
Lacombe			165			2,766		175	648
Lamont			304					2,702	404
Lavoy			154					1,507	145
Langdon						770		698	30
Leduc	178							11,591	1,188
Lloydminster								64	
Loughheed								28	
Lethbridge		72				208			
Mannville			537	894				5,089	613
Medicine Hat		712						1,467	
Millet	180					1,399		1,330	
Midnapore								78	
Morinville			5,372					1,699	569
Morley								199	
Morningside			35			915		20	216
Mundare			280					1,132	111
Macleod		430				160			
Nanton	250	100				2,858		475	
Ohaton		360				1,249		1,219	365
Okotoks		10				403		502	
Olds			199			1,842		4,388	660
Penhold			14					568	139
Ponoka		332				1,716	1,893	5,761	1,250
Pincher						380		10	
Ranfurly			105					455	20
Red Deer		700				1,906		3,354	668
Sedgewick		301				764		40	112
St. Albert			55					3,928	24
Sheppard						855			
Stavely	446					302			

STATEMENT OF GRAIN DISTRIBUTED AT RAILWAY STATIONS IN ALBERTA— *Continued*

STATION	WHEAT				OATS				BARLEY
	1 Nr.	2 Nr.	3 Nr.	No. 4	1 Wh.	2 Wh.	3 Wh.	Imp't'd	
Stettler		214	786					3,989	749
Stony Plain			313					1,249	156
Strathcona			128			677		3,865	1,086
Taber	129					174			
Strathmore			98			385			
Tees			28			1,768			185
Vegreville			936					4,746	517
Vermilion	1,000		1,626		345	1,458		8,922	1,742
Walsh	160					185			
Wetaskiwin	686				1,932	5,031	2,889	1,904	1,110
Total	5,746	6,099	17,984	894	2,393	60,323	7,848	110,522	20,886

Total Wheat	30,723
Total Oats	181,086
Total Barley	20,886
	232,695

STATEMENT Showing Total Grain Distributed in Alberta and for which a Mortgage or Lien was given.

	MORTGAGE TO ALBERTA GOV'T.	
	BUSHEL8	VALUE
Wheat	11,541	\$12,916.96
Oats	115,490	90,575 77
Barley	13,994	15,813 22
Total	141,025	\$119,305 95

	LIENS TO DOMINION GOVERNMENT	
	BUSHEL8	VALUE
Wheat	13,818	\$15,269 35
Oats	66,158	51,980 17
Barley	6,956	7,860 28
Total	86,932	\$75,109 80

In addition to the above 247 farmers received grain for which they paid cash.

In accordance with the terms of the agreement entered into with the Dominion Government the province became responsible for the full amount of the money for which mortgages were taken from farmers in the province. Reference to the above tables shows that in all 3,484 farmers were assisted in securing seed grain. Of these only 247 paid cash. 1,630 homesteaders gave liens on their homesteads to the Dominion Government for \$75,109.80 for 86,932 bushels of grain, and 1607 gave mortgages to the province for \$119,305.95 for 141,025 bushels of grain. In addition to this one thousand bushels of Garton's Regenerated Abundance Oats were distributed but are not taken into account in the above tables.

V.—IMMIGRATION AND COLONIZATION.

As a result of advertising placed in a number of papers of special articles on Alberta appearing in leading magazines and newspapers throughout the United States and elsewhere and of the good word of appreciation every visitor has for the province on his return to his native place, the Department had many enquiries from all parts of the world regarding the resources of the province and the opportunities it offers to those desiring to make a new home for themselves. A second edition of the official handbook dealing with the resources of the province was printed, and of the 15,000 copies issued the greater bulk of them has already gone.

Attention was drawn to the province this year on account of the Dominion Exhibition being held at Calgary. A great many people took advantage of the low railway rates in connection with the exhibition to visit the fair and incidentally to see something of the province. The exhibition was a great success owing to the exceptional executive ability of the manager. One of the most striking features of the exhibition was the display of natural products made by about forty different districts. These exhibits were the best recommendation possible of the capabilities of the various districts. Not only was the exhibition a great success as exhibitions go but it was a financial success as well.

As will be seen from the accompanying illustration of the exhibit the main feature of it is a field of standing grain with a cowboy in the distance. The title of the scene is "Another trail cut off." The idea was to represent the rapid development of the province from a ranching country to that of a grain-growing one. The cowboy is following a familiar trail which again appears in the foreground on the other side of the wheat field but is suddenly stopped by a wire fence and a field of grain. To add a realistic effect the trail is continued in the foreground to the right and digging in the trail are two gophers. The field is extended by means of mirrors on either side while in the rear the cowboy is supposed to have raised a covey of prairie chicken, these being hung by invisible wires as having just risen on his approach. In the foreground are samples of coal, timber, baled alfalfa and other natural products of the province. The whole exhibit was so unique that it was voted by all as the most novel exhibit on the grounds.

It was also decided to send this exhibit to the Canadian National Exhibition at Toronto where a like design was followed in setting up the exhibit, and again the province had the pleasure of being credited with having the most attractive exhibit on the grounds. By means of this novel design the attention of many thousands was drawn to this province. The plan followed at last year's exhibition of having a photo taken of the exhibit and a photogravure made of it put on post cards for distribution was again followed with the result that over 20,000 of these cards illustrating the exhibit were distributed throughout the country. The credit of designing and superintending the erection of this exhibit belongs to Mr. E. L. Richardson, of Calgary.

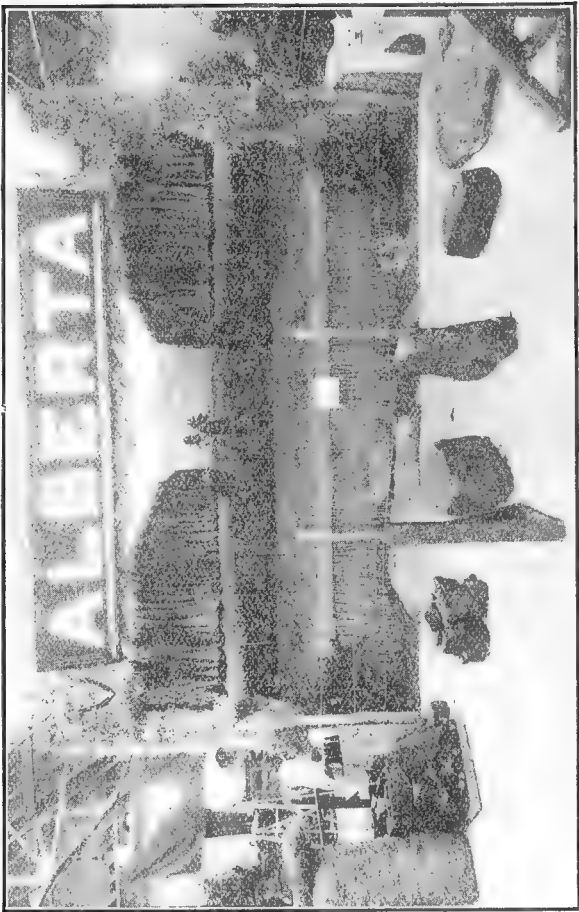


ILLUSTRATION SHOWING NOVEL DESIGN OF PROVINCIAL EXHIBIT.

Toronto Sept 1908
Dear Father
I have just seen the Alberta
Government Exhibit at the Fair. Oh,
they must have a great success. What
a job as high as 60 feet to the top
and from 30 to 40 is common. Oats
will be from 40 to 60 bushels and barley
from 60 to 80 bushels. You should see
the mountains, wheat fields,
rivers and lakes. You may think
they are well there. The climate
is ideal for health. Coal is found
in all parts of the Province. Coal,
oil and natural gas are also found
there.
If you are interested write to
The Department of Agriculture,
Edmonton or the Ministry of any
Province. Kind of Trade God
Literature!
With kind regards from
Yours sincerely
H. H. Bond

VI.—MUSEUM.

Early in the year arrangements were made with the Department of Marine and Fisheries at Ottawa for the services of Mr. Halkett, curator of the museum, who again visited this province examining into the life of its lakes. Instead of undertaking any specific work in any one lake, Mr. Halkett deemed it advisable to visit a number of the larger lakes, endeavouring in a general way to ascertain the nature of the life abounding in the waters thereof. This he did during August and September visiting Beaver Lake, Cooking Lake, Wabamun Lake, Pigeon Lake, Gull Lake, Buffalo Lake, and several other lakes in the province.

In addition to this there was purchased a full moose skin, which was mounted and shown at the Calgary Exhibition and is now on exhibition in the Normal School at Calgary. Besides this a full-sized bear was also obtained. In addition to these the mounted heads of a number of animals and birds were also secured, which will form the nucleus of an exhibit for a museum as soon as one is established.

VII.—REPORT OF FRUIT EXPERIMENTS.

The work of the fruit experiment stations was this year under the supervision of Mr. T. B. R. Henderson, the successor to Mr. Archibald Mitchell, as chief inspector of weeds. The following is his report:

Work on the nine stations in operation at Magrath, Medicine Hat, Granum, DeWinton, Didsbury, Wetaskiwin, Clover Bar, Vegreville and Kitscoty, has been continued in accordance with the agreement made between the Department and the owners of the land on which these orchards are situated. On the first six stations forty trees were planted in the spring of 1907. Twenty of these were delivered in the fall of 1906 and buried over winter, and twenty were delivered in the spring. Duplicate orders of these trees were planted in the spring of 1908. Twenty-eight trees were planted at Clover Bar in the spring of 1907, all of which were delivered in the spring. Twenty were planted in the spring of 1908 from stock delivered the previous fall. At Vegreville forty trees were planted in the spring of 1908, twenty of which were delivered in the fall and twenty in the spring. The following is a summary of the condition of the trees at each station when examined in October last.

Magrath. On the farm of J. B. Merrill, in charge of Mr. Peirce Fisher. After the planting was done in 1907, Mr. Merrill was unfortunately called to England. The orchard was left in charge of a tenant, who permitted horses and cattle to run among the trees, and some of them were very badly injured. Those that escaped injury are doing well. In 1908 the planting was done by Mr. Peirce Fisher, and since that time the orchard has been under his care and has been well fenced. The trees have made a vigorous growth this season and all those planted in 1907 are in excellent condition. The only difficulty that might arise in this orchard is that the trees continued their growth later in the fall than one would like to see, and it is probable that some of them will be injured by the frost this winter. The orchard has been kept in a good state of cultivation and was watered once by irrigation during the month of September.

Medicine Hat.—In charge of Mr. Thos. Littleford. About 50% of the trees planted in 1907 are in good condition. Owing to the small amount of precipitation in 1908, a number of the newly-planted trees never started, and those that did start did not make as vigorous growth as the trees at the majority of the stations. However, when examined at the close of the season they were more mature than the trees in the other orchards, and consequently may come through the winter in good condition. Mr. Littleford has kept the ground in a good state of cultivation, so that evaporation was checked and all the moisture preserved for the use of the trees.

Granum.—In charge of Mr. J. G. Vosburgh. The trees planted in the spring of 1907 suffered severely by the snow storm and cold weather in September of that year. Those that survived are in fairly good condition. The trees planted in the spring of 1908 are not in as good condition as would be expected, probably owing to the lack of proper care and cultivation during the summer.

DeWinton.—In charge of Mr. A. S. Blackwood. The trees planted in the spring of 1907 were very badly injured by the frost and snow storm in September, in fact about 60 per cent. of these young trees were killed. The remainder are doing fairly well. The large majority of the trees planted in 1908 are in good condition. The orchard has been kept in an excellent state of cultivation. The soil at this point is very rich in humus and as the rainfall was not deficient last season, the growth of the trees was continued until late in the fall, and they may suffer during the coming winter.

Didbury. In charge of Mr. Samuel Troyer. The trees planted in this orchard in the spring of 1907 suffered greater injury by the September storm than at any of the other stations. They were also injured by hail during the month of July the same year, and when examined in the fall of the present year, only 6 per cent. of the trees planted in 1907 were living. The orchard is situated in the northern part of the chinook belt. The altitude at this place is 3,300 feet, being higher than at any of the other orchards. Probably these things account for the extensive injury. Mr. Troyer has kept the orchard well cultivated. The trees planted in the spring of 1908 were in fairly good condition, and will probably come through the winter without injury.

Wetaskinwin.—In charge of Mr. Joseph Kapler. The plantings made in both years are doing fairly well. The orchard has been kept in a good state of cultivation, and some good results should be obtained at this point.

Clover Bar. In charge of Mr. W. F. Wilkinson. Trees planted in spring of 1907 are doing exceedingly well, only about 10 per cent. suffered to any extent last winter. The trees planted in 1908 are also in good condition. Vegetables have been planted between the trees and in the cultivation and harvesting of these, the growth was stimulated and the wood in some cases did not mature as early as it should have.

Vegreville. In charge of Mr. H. T. Payne. The first trees were planted in the spring of 1908 from trees delivered that spring and the previous fall. This orchard is in exceptionally good condition. Out of forty trees planted there were only two that did not start. They made excellent growth during the summer and in the fall the wood was fairly well matured, and the trees should come through the winter in good condition.

Kitseoty. In charge of Mr. A. S. Thresher. Twenty trees were ordered for this orchard to be delivered in the fall of 1907. They arrived too late to be buried and were kept in the cellar. The majority of the trees unfortunately, were very badly injured by mice so that when planted only five started. These are in good condition.

A sufficient number of trees have been ordered to be delivered in the spring of 1909 to complete the acre agreed for, and fill in all the gaps, with the exception of the orchard at Kitseoty. The planting of this orchard will not be completed until the spring of 1910.

About 70 per cent. of the total number of trees planted are living and in good condition. The most serious injury occurred at Didbury, DeWinton and Granum where the early snow storm and frost was most severe. The remainder of the dead trees not injured by this storm either did not start or were winter killed.

At the last examination notes were taken as to the condition of each tree. These have been placed on file for future reference.

In order to ascertain whether or not there was any difference between spring and fall delivered trees, half the trees planted were delivered in the fall and the remainder in the spring. Nurserymen have more time in the fall to pack their shipments, and in the spring they can be handled by the farmer at his convenience. For these reasons it is generally conceded that fall delivered trees buried over the winter and planted in the spring give the best results. The trees on the various stations from the different deliveries at the present time, have not shown any noticeable difference. This is probably due to the fact that both shipments were equally well packed and the spring delivered trees were immediately planted when received, so that they did not suffer through loss of moisture.

For the past two or three years agents representing nurseries in Manitoba, Eastern Canada and the United States have been canvassing for orders in Alberta. Each agent claims that the stock supplied by the firm he represents is suited to our climate. With a view of ascertaining whether or not there is any difference between the stock from these different nurseries, trees were ordered from one nursery in Manitoba, one in Minnesota and one in Ontario. About 75 per cent. of the trees from Manitoba, 65 per cent. of those from Ontario, and 50 per cent. of the trees ordered from Minnesota are in good condition. The trees from the Ontario and Minnesota nurseries were not packed as well as those from Manitoba. This poor packing,

coupled with the fact that they were a few days longer in transit, probably accounts for the poor showing of the Minnesota and Ontario trees. It has generally been believed that fruit trees give best results when propagated in the locality where they are to be planted. The experiments in Alberta corroborate this belief. When nurseries are in operation in our own province, it is highly probable that there will not be so much difficulty in getting the young trees to start, as there has been in the past.

There is considerable difference of opinion regarding the proper age at which trees should be received from the nursery. Farmers generally show a weakness for planting large trees. At these stations, one, two and three year old trees have been planted. The results so far are slightly in favour of the younger trees. This may be accounted for by the fact that the roots of the younger trees are not injured in transplanting, as are the roots of larger trees. Another advantage in planting the younger trees is that they can be trained so as to assume any desired shape. In severe climates where trees are subject to injury through sun scald and severe winds, it has been found that the half standard trees with short trunks give better results than the standard trees. Half standard trees are therefore best suited to the conditions of this province. Three year old trees are delivered with the intention that they grow into large trees equal in size to those of Ontario. The trunks are so high that they do not permit of pruning so that the trees will assume the half standard shape, and are therefore not as desirable as the younger trees.

In examining the trees during the summer it was noticed that the Minnesota and Ontario stock was badly affected with the oyster shell bark louse and brown rot fungus, brought in with the trees, while the Manitoba stock was practically free from these pests.

In the fall of 1907 a number of the trees in each orchard were practically uprooted and the tops and branches buried over winter. In the spring these were replanted. This fall these same trees, as well as a number that were planted in the spring of 1908, were completely buried. The object of this is to ascertain whether or not any advantage is to be gained by protecting them for a winter or two until they have two or three layers of native wood, when it is theorized that they will be hardy enough to withstand the severe winters.

VII.—VITAL STATISTICS.

Under the provisions of The Vital Statistics Act of 1907, it was decided to appoint postmasters throughout the province as registrars, since by the Dominion postal laws they are required to keep the forms of registration of births, marriages and deaths and hand out the same on application, and also because it would be much simpler for the Department to advertise registrars if they were uniformly postmasters. In a few cases the postmasters have been unwilling to accept the appointment. In the case of postmasters in the cities under a regular monthly salary from the Post Office Department, it was found necessary to appoint other persons. In these places the former registrars have been retained.

This rearrangement has proven very satisfactory and has secured much fuller and more accurate returns of births, marriages and deaths.

BIRTHS.

The total number of births registered in Alberta for the year 1908 is 5,973, or an increase of 26.22 per cent. over 1907.

The masculinity of the births, *i.e.*, the number of males to each 1,000 female births for the year, was 1,077.

MARRIAGES.

The total number of marriages celebrated during 1908, as per returns received, was 2,032, as compared with 1,871 solemnized in 1907. The mean marriage age in 1908 is shown, for males, 30.23 and for females, 24.19.

DEATHS.

The deaths registered in Alberta during the past year number 2,188, namely 1,241 males and 947 females, being equivalent to a ratio of 2.73 births to deaths.

Applications were received in the Department during the year for one hundred certified extracts of registrations, and twenty-two searches were made of the records on request. Authority to register events was granted in sixty-five cases,—according to the provisions of The Vital Statistics Act, section 27.

Below will be found the usual tables based upon the vital statistics returns. In the report of the provincial health officer other tables will be found, based upon the returns as viewed from the standpoint of public health:

TOTAL REGISTRATIONS of all Births, Marriages and Deaths for each respective month of the year.

MONTH	BIRTHS	MARRIAGES	DEATHS
January	478	193	174
February.	363	132	173
March	431	129	171
April	509	143	178
May.	560	131	196
June.	517	214	154
July.	480	153	172
August.	460	152	215
September	540	185	256
October.	493	187	172
November.	523	200	179
December.	619	213	148
Totals.	5,973	2,032	2,188

REGISTRATIONS for the year 1908 received throughout the respective electoral divisions of the province.

	BIRTHS			MARRIAGES	DEATHS		
	MALE	FEMALE	TOTAL		MALE	FEMALE	TOTAL
Athabasca..	..	..	..	..	..	..	..
Banff	60	44	104	30	9	11	20
Calgary	459	400	859	449	234	169	403
Cardston.	70	42	112	13	17	16	33
Edmonton	252	235	487	296	119	94	213
Gleichen	18	17	35	9	8	5	13
High River.	103	113	216	52	51	33	84
Innisfail	78	78	156	50	26	24	50
Lacombe	163	191	354	132	54	48	102
Leduc.	39	36	75	25	12	10	22
Lethbridge..	198	165	363	135	104	68	172
Macleod.	113	103	216	107	55	43	98
Medicine Hat.	131	151	282	95	83	56	139
Peace River.	..	..	..	..	..	..	..
Pincher Creek	60	66	126	44	38	24	62
Ponoka	132	134	266	47	40	25	65
Red Deer.	39	38	77	25	11	14	25
Rosebud	93	90	183	39	29	19	48
St. Albert.	118	87	205	31	36	45	81
Stony Plain	39	39	78	14	19	12	31

REGISTRATIONS for the Year 1908 *Continued.*

	BIRTHS			MARRIAGES	DEATHS		
	MALE	FEMALE	TOTAL		MALE	FEMALE	TOTAL
Strathcona	140	154	294	123	67	44	111
Sturgeon	38	36	74	12	18	16	34
Vermilion	261	263	524	97	73	47	120
Victoria	305	293	598	123	88	77	165
Wetaskiwin	188	101	289	84	50	47	97
Total	3,097	2,876	5,973	2,032	1,241	947	2,188

BIRTHS AND RATIO OF BIRTHS TO DEATHS.

YEAR	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths	YEAR	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths
1901	1,081	3.55	1905	1,059	3.11
1902	1,010	2.59	1906	1,094	2.07
1903	1,056	2.95	1907	1,075	2.96
1904	1,118	3.04	1908	1,077	2.73

Deaths of Infants (under one year)—

To 1,000 births, 1908 126.57

To 1,000 deaths from all causes 345.52

The total number of infants who died in 1908 under one year was found to be 756.

MEAN MARRIAGE AGE.

YEAR	MALE	FEMALE	YEAR	MALE	FEMALE
1901	28.78	22.42	1905	28.34	23.06
1902	27.10	22.88	1906	28.82	22.59
1903	28.31	22.98	1907	27.45	23.98
1904	28.53	23.41	1908	30.23	24.19

DEATH RATES FROM ALL CAUSES per one thousand living inhabitants of five of the principal cities of Alberta.

CITY	POPULATION	DEATHS	Death rate per 1,000
Edmonton	20,000	213	10.65
Calgary	22,000	403	18.31
Lethbridge	7,000	172	24.57
Strathcona	5,000	111	22.20
Medicine Hat	5,000	139	27.80



"ANOTHER TRAIL CUT OFF."

Photogravure of the striking exhibit made by the Department at the Dominion Exhibition, Calgary, 1908. (See page 58.)

MARRIAGES - Origins of Contracting Parties.

BRIDE		BRIDEGROOMS											
		English Speaking Countries					OTHERS						
		Canada	Other British Colonies	United Kingdom	United States	Total	Germans	Russians	Austrians	Scandinavians	French	Others	Totals
English speaking countries	Canada	437	14	93	107	637	5		5	1	1	1	13
	Other British Colonies	84	358	50	492	144	7		1	11		4	23
	United Kingdom	121	48	265	431	865	11		2	20		3	36
	United States												
	Totals	642	14,499	422	1,577	23	8	32	1	8	72	1	1,650
Others	Germans	9		3	5	17	17		1	2		1	21
	Russians	1				84	1	84					88
	Austrians	2		3	4	12	140		1				154
	Scandinavian	1		5	12	24	1		41				68
	French			1	2	3	1		1	10			16
	Others			1	3	4					8		12
	Totals	22		12	26	60	23	85	144	45	10	9	376
	Half Breeds												4
	Indians												2
	Totals	664	14,511	448	1,637	46	85	152	77	11	17	388	2,032

MARRIAGES - Religious Denominations of Contracting Parties.

OFFICIATING CLERGYMEN		DENOMINATIONS	BRIDEGROOMS														
			Presbyterians	Methodists	Anglicans	Roman Catholics	Lutherans	Baptists	Salvation Army	Mennonites	Greek Catholics	Latter Day Saints	Moravians	Evangelical Reformed	Congregationalists	Greek Independent	Others
547	389	Presbyterians	242	51	52	7	7	17							4		6
458	353	Methodists	69	192	32	8	13	21	1	1				2			8
301	348	Anglicans	49	24	233	11	6	15				2					2
279	306	Roman Catholics	17	10	21	236	4	7						2			2
120	213	Lutherans	13	14	9	11	148	6					1	1			1
163	145	Baptists	26	31	7	4	10	62						1			2
8	15	Salvation Army		1					14								
16	12	Mennonites		2						10							
50	62	Greek Catholics	1		1	2	1	1		57							
29	38	Latter Day S'nts			1		1	1				33		1			1
6	5	Moravians		1									3				
15	15	Evang'l Refor'd		1	1		2							11			
6	32	Congregationalists	8	4	3		4	2							10		
22	25	Greek Independent														25	
12	56	Others	9	11	3		2	3									27
	18	Not Stated	1	1			1										15
2032	2032	Totals	435	343	363	279	199	135	15	11	57	35	4	18	27	25	49
																	37
																	2032

CERTIFIED EXTRACTS, Searches, Authority to Register, 1908.

- 100 Certified extracts.
 22 Searches of the vital statistics records.
 95 Authorities to register.

IX.—PROVINCIAL SEED FAIR.

The management of the Provincial Seed Fair was placed in the hands of Mr. T. B. R. Henderson, of the Department staff, as secretary. The following is his report:

SIR,—The early frosts in the season of 1907 injured the cereal crops to such an extent that the local seed fairs held under the supervision of the Dominion Department of Agriculture were few in number, only nine being held. These took place principally in the southern part of the province where grain growing largely employs the attention of the farmers. It was thought advisable to hold the Provincial Seed Fair in this locality also, and arrangements were made for holding it in Lethbridge on February 18th, 19th and 20th. The following is a list of the prizes offered.

Class I—Wheat.

SEC.	1ST	2ND	3RD	4TH	5TH
1. Winter Wheat, Alberta Red	✓15	12	10	7	5
2. Winter Wheat, any soft variety	✓13	9	4		
3. Spring Wheat, Red Fife	✓15	12	10	7	5
4. Spring Wheat, any other good milling variety.	✓13	9	4		

Class II—Oats.

1. Oats, Banner.	✓15	12	10	7	5
2. Oats, any other long or milling variety.	✓15	12	10	7	5
3. Oats, any short or feed variety	✓13	9	5	3	

Class III—Barley.

1. Barley, any two rowed variety	12	8	4		
2. Barley, any six rowed variety.	12	8	4		

Class IV—Other Cereals.

1. Peas.	8	5	3		
2. Flax Seed.	8	5	3		

Class V—Grass Seeds.

1. Timothy Seed.	8	5	3		
2. Brome Grass Seed	8	5	3		
3. Rye Grass Seed.	8	5	3		

Class VI—Clover Seeds.

1. Red Clover Seed.	8	5	3		
2. Alsike Clover Seed	8	5	3		
3. Alfalfa.	8	5	3		

Grain Judging Competitions.

10	8	5	3		
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In addition to these prizes Messrs. Bulman Brothers, Publishers of Farm Crops magazine, Winnipeg, offered a handsome silver trophy valued at \$100 for the best bushel of spring wheat. The trophy was supplemented by cash prizes of \$50 to the winner, \$30 as a second and \$20 as a third prize.

Some 90 grain growers entered into competition for these prizes. The competition in the wheat classes was especially keen. The entries for Alberta red wheat totalled 26, for red fife spring wheat 20, and for spring wheat, any other variety, there were 16 entries. 36 samples were in competition for the special prizes offered by Messrs. Bulman Brothers. The Department was successful in securing the services of Professor A. Atkinson, agronomist in the Montana Agricultural College, Bozeman, Montana, who placed the awards in wheat. Mr. W. C. McKillican, B.S.A., Alberta representative, Seed Branch, Dominion Department of Agriculture, Calgary, and Mr. G. H. Hutton, B.S.A., superintendent Experimental Farm at Lacombe, placed the awards in the other classes.

The following is a list of the prize winners:

Class 1, Section 1, Winter Wheat, Alberta Red.—1st, J. G. Vosburgh, Granum; 2nd, H. J. Bowden, Claresholm; 3rd, Elias Pilling, Leavitt, 4th, Miles Parks, Bow-

ville; 5th, Chas. Quinton, Leavitt; 6th, W. G. Blackorby, Claresholm; 7th, Eli Bennett, Magrath.

Class 1, Section 2, Winter Wheat, Soft.—2nd, Walter Ackroyd, Magrath; 3rd, Chas. Quinton, Leavitt.

Class 1, Section 3, Spring Wheat, Red Fife.—1st, E. H. Earl, Medicine Hat; 2nd, Wm. H. Spackman, Stirling; 3rd, Jos. Atkinson, Norton; 4th, A. Woolley, Medicine Hat; 5th, Jas. L. Wannop, Laurence; 6th, John T. Steele, Magrath; 7th, Orson Bridge, Magrath.

Class 1, Section 4, Spring Wheat, Other than Red Fife.—1st, J. G. Vosburgh, Granum; 2nd, D. Pelletur, Lethbridge; 3rd, Evert Evans, Macleod; 4th, Gustave A. Bruchet, Lethbridge; 5th, John Jones, Iron Springs; 6th, A. Woolley, Medicine Hat.

Class 2, Section 1, Oats, Banner.—1st, W. H. Pawson, Coaldale; 2nd, E. H. Earl, Medicine Hat; 3rd, John Brodie, Lethbridge; 4th, B. S. Pawson, Coaldale; 5th, J. G. Vosburgh, Granum; 6th, Wm. Damon, Macleod.

Class 2, Section 2, Oats, Long.—1st, B. James, Lethbridge; 2nd, T. Allen Brick, Peace River Crossing; 3rd, A. E. Keffer, Lethbridge; 4th, A. Woolley, Medicine Hat; 5th, Geo. E. Hemeloyk, Coaldale; 6th, H. H. Jenkins, Pincher Creek; 7th, Walter Ackroyd, Magrath.

Class 2, Section 3, Oats, Short.—1st, H. J. Bowden, Cardston; 2nd, E. S. Henniger, Magrath; 3rd, Hugh Curry, Ingletton; 4th, Wm. H. Spackman, Stirling; 5th, Wm. Moodie, De Winton; 6th, A. Woolley, Medicine Hat.

Class 3, Section 1, Barley, Two Rowed.—1st, A. Woolley, Medicine Hat; 2nd, J. G. Vosburgh, Granum.

Class 3, Section 2, Barley, Six Rowed.—1st, A. E. Keffer, Lethbridge; 2nd, F. E. Renaud, Gleichen; 3rd, E. H. Earl, Medicine Hat; 4th, Hugh Curry, Ingletton; 5th, H. B. Moore, Innisfail.

Class 4, Section 1, Peas.—1st, J. G. Vosburgh, Granum; 2nd, A. Woolley, Medicine Hat.

Class 4, Section 2, Flax Seed.—1st, C. F. Ingram, Lethbridge.

Class 5, Section 1, Timothy Seed.—1st, Jos. C. Peterson, Raymond; 2nd, S. E. Howard, Innisfail.

Class 5, Section 2, Brome Grass.—1st, J. H. Connell, Gladys; 2nd, A. Switzer, Lacombe; 3rd, Alex. C. Blackwood, De Winton.

Class 7, Section 1, Best Bushel Spring Wheat.—“Farm Crops Special”: 1st, J. G. Vosburgh, Granum; 2nd, E. H. Earl, Medicine Hat; 3rd, Wm. H. Spackman, Stirling.

GRAIN JUDGING COMPETITIONS.

1st, W. H. Pawson, Coaldale; 2nd, G. T. Wride, Raymond; 3rd, E. Tovell, Claresholm; 4th, J. Horner, Macleod.

INSTITUTE MEETINGS AT SEED FAIRS.

A programme of institute lectures was arranged to take place at the time of the fair. These were held on the afternoon of the eighteenth and morning of the nineteenth. On the evening of the eighteenth a public meeting was held, to which the ladies were invited.

The following is a programme carried out at these meetings:

Wednesday, February 18th.

2 to 2.30 —Address: “How to Increase the Yields of our Cereal Crops,” G. H. Hutton.

2.30 to 2.40—Discussion.

2.40 to 3.10 —Address: “Weeds of Alberta,” T. B. R. Henderson.

3.10 to 3.20—Discussion.

3.20 to 4.00—Address: “Dry Farming,” Prof. A. Atkinson.

4.00 to 4.15 —Discussion.

Wednesday Evening—8 O'clock.

Addresses will be given by the following:

Wm. Henderson, mayor of the city.

Prof. Atkinson, of the Montana Agricultural College, on “Industrial Education.”

W. F. Stevens, Secretary of the Alberta Farmers' Association.

G. H. Hutton, Superintendent of Experimental Farm, Lacombe.

W. H. Fairfield, Superintendent of Experimental Farm, Lethbridge.

Musical selections were rendered by Messrs. T. S. McKenzie, A. Ely and G. E. Fleming.

Thursday Morning.

9 30 to 10.00—Address: "Winter Wheat in Alberta," W. C. McKillican.

10.00 to 10 10—Discussion.

10.10 to 10 40—Address: "Causes of Deterioration in Wheat," W. F. Stevens.

10.40 to 10 50—Discussion.

10.50 to 11.30—Address: "Seed Selection," Prof. A. Atkinson.

11 30 to 11 50—Discussion.

Everybody Welcome.

These meetings were largely attended considering the accommodation available. One of the greatest drawbacks at this seed fair was the lack of suitable accommodation in the way of halls. It was impossible to get a building large enough in which to exhibit the grain to the best advantage, and also impossible to get a suitable hall in which to hold the meetings.

The Department wishes to express its thanks to the Seed Branch of the Dominion Department of Agriculture for their assistance in supplying the speakers and judges for this occasion and in giving a grant of money amounting to \$200.00.

T. B. R. HENDERSON,

Secretary Provincial Seed Fair.

X.—OFFICE WORK AND ORGANIZATION.

In past years the work of the Department has been largely that of organizing new branches and developing in many ways. This year there has not been so much new work started as there has been a completing and rounding out of the work already begun. The only new appointment to the staff was Mr. W. F. Stevens as live stock commissioner. Particulars of his work will be found under the heading of Live Stock in the first section of this report and his own report of the work he has done in a report by itself elsewhere in this volume.

During the year the board of health met a number of times and finally completed the rules and regulations to be submitted to the Executive Council under The Public Health Act. One member of the board resigned, being F. W. Mewburn, M.D., of Lethbridge, and Dr. D. G. Revell, director of the laboratory, was appointed to succeed him.

Owing to the outbreak of so many cases of contagious and infectious diseases the work of the public health branch grew beyond the power of the provincial health officer to personally look after it. It was, therefore, decided to appoint an officer who would do a great deal of the outside inspection work, look after the details of every outbreak and see that quarantine was enforced and proper provision made for supplies of food. It would also be his duty to inspect hospitals and any unsanitary condition which might be reported from anywhere in the province. It was decided to call this official the provincial medical inspector. The appointment fell to Dr. V. E. Barrow, of Edmonton, who has ably filled the position. His report of the work undertaken is embodied in that of the provincial health officer.

Early in the year the Department lost the services of Mr. Archibald Mitchell as chief inspector of weeds. For two seasons Mr. Mitchell had ably filled this position, giving general satisfaction in the management of one of the most difficult problems the Department has to handle. He resigned to take up a more responsible position with a wider field under the Forestry branch of the Department of the Interior of the Dominion Government. His services will not be altogether lost to the province, and it is hoped that each

institute season will see him at work amongst the farmers where his kindly manner in dealing with all made him generally beloved. His successor was found in Mr. T. B. R. Henderson, a graduate of the Ontario Agricultural College, and connected with the Department since its inception as librarian and live stock clerk. He took hold of his new work with his accustomed energy and thoroughness, as will be evidenced by his report.

Quite a number of volumes have been added to the departmental library during the year, as well as bulletins and reports of one kind and another from the various colleges, experimental stations throughout the Dominion of Canada and other countries. It is hoped that this library will be of great advantage to the Department in the prosecution of its work.

The volume of correspondence has grown rapidly during the year, there having been received 33,763 communications as compared with 22,657 in 1907, and 12,923 in 1906. The total number of letters sent out during the year is 85,431, and 23,173 bulletins and reports. At the brand office at Medicine Hat 4,535 letters were received and 6,612 dispatched.

The thanks of the Department are due, in conclusion, to the press of the province for their readiness to publish any information furnished by the Department for the public good. Thanks are also due to the railway companies for their willingness to assist, wherever it lay in their power, the work the Department had in hand. Indeed, it is a great pleasure to state that in whatever direction the Department looked for assistance in any project which it had under way, that it always has been accorded hearty support and good wishes.

I have the honour to be, Sir,

Your obedient servant,

GEO. HARCOURT,
Deputy Minister of Agriculture.

2.—REPORT OF THE DAIRY COMMISSIONER

SIR, I have the honour to submit herewith the report of the Dairy Commissioner's Branch for the year ending December 31st, 1908.

I.—GENERAL.

The dairy industry of the province shows substantial progress, due largely to the organization and operation of creameries and cheese factories, and while the markets for the product of the home dairies will in all probability continue to be more or less precarious owing to lack of uniformity in quality and general make up there is every reason to believe that the butter and cheese output of the creameries and cheese factories will always find a ready sale provided that a high standard of quality and workmanship be maintained.

Fifty-one creameries were operated during the past year, as against forty-five in 1907, showing an increase of six. Thirty were operated by individual enterprise and twenty-one on the co-operative principle and under government management.

The butter output of the creameries was reported to be 2,100,000 pounds for the year, an increase of 40 per cent. and the estimated selling value of the butter was \$526,800, an increase of 45 per cent. over that of the previous year.

Eight cheese factories were in operation during the season of 1908, and reported a cheese output of 190,000 pounds as against 197,911 pounds for 1907, and the selling value of the cheese is estimated to be \$23,750.

Thus it will be seen that the aggregate value of the output of the creameries and cheese factories of the province reached a sum of over \$550,000 in round figures for the twelve months.

II.—PRIVATELY OPERATED CREAMERIES.

In the following list is given the names and locations of the privately operated creameries, also the names of their proprietors or secretaries, as the case may be.

CREAMERY	POST OFFICE ADDRESS	PROPRIETORS
1. Pine Lake	Pine Lake, Alta . . .	Trimble Bros.
2. Cloverhill	Didsbury, Alta . . .	F. N. Ballard.
3. Neapolis	Neapolis, Alta . . .	H. L. Reimer.
4. White Swan	Bowden, Alta . . .	Robt. McCue.
5. Wild Rose	Ponoka, Alta. . . .	W. A. Brodie.
6. Knee Hill	Sunny Slope, Alta . .	R. Karnagel.
7. Trimble	Red Deer, Alta. . .	H. W. Trimble.
8. Golden Rod	Valley City, Alta . .	T. A. Brereton.
9. Mayton	Mayton, Alta . . .	Wm. L. Fischer.
10. Lakeside	Leduc, Alta . . .	Harris & Harrower.
11. Golden Rose	Camrose, Alta . . .	Harris & Harrower.
12. Rosewood	Highland Park, Alta .	A. E. Trussler.
13. Highland Park	Highland Park, Alta .	Hansen & Johnstone.
14. Initial	Harmattan, Alta . .	O. O. Taylor.
15. Berlin	Didsbury, Alta . . .	Peter Friesen.
16. Three Hills	Three Hills, Alta . .	Arthur W. Pratt.
17. Bentley	Bentley, Alta. . . .	J. F. Millar.

CREAMERY	POST OFFICE ADDRESS	PROPRIETORS
18. Parisian . . .	Trochu Valley, Alta. . .	H. de Reinach-Werth.
19. Springfield. .	Sterlingville, Alta. . .	Davies & Hunter.
20. Rosebud . . .	Carstairs, Alta. . .	W. E. Tidball.
21. Red Lodge . . .	Red Lodge, Alta. . .	Colin Thompson.
22. McCrohan & Co . . .	Calgary, Alta. . .	McCrohan & Co.
23. Pincher Creek Creamery..	Pincher Creek, Alta. . .	McKerriker Bros.
24. Ivy Leaf. . .	Lewisville, Alta. . .	J. G. & M. Gibbon.
25. Lamont. . .	Lamont, Alta. . .	T. C. Smith.
26. The Carbon . .	Carbon, Alta. . .	Blois & Davies.
27. Edmonton City Dairy . .	Edmonton, Alta. . .	Edm'n City Dairy, Ltd.
28. The O. K. Creamery. . . .	Morningside, Alta. . .	T. Smith, Secretary.
29. Farmers Creamery Assoc.	Ryley, Alta. . .	C. M. Nelson, Secretary.
30. Bawlf Co-operative.	Bawlf, Alta.	K. O. Eggen, Secretary.

A number of the above mentioned creameries formed themselves into an association for the purpose of marketing their butter to best advantage and to generally improve their business opportunities. The organization established a selling agency at Calgary, appointing as its broker Mr. D. J. Campbell.

In order to assist them in the marketing and of their business the Department offered to handle any or all of their butter through the government cold storage at Calgary furnishing that service at actual cost, as in the case of the government operated creameries. There being as yet no public cold storage in the province the Department was pleased to place its cold storage service at the disposal of all the creameries who wished to use it and during the summer season 357,846 pounds were handled for privately operated creameries.

III. CHEESE FACTORIES.

The names, location and names of the proprietors of the cheese factories operating in Alberta during the summer of 1908 are given herewith. The cheese output as reported by them varied at the different factories between 5,000 pounds and 42,000 pounds and the number of farmers supplying milk range from 5 to 26 at each point.

The pioneers in this branch of dairying deserve credit for establishing and operating cheese factories in districts which have not previously had the advantage of any dairy organization. They know that under the conditions usually obtaining in such districts they may not look for immediate and adequate returns upon their investment of capital and labour, but are satisfied to provide the farmers with a market for their milk and in course of time, as their respective districts become more densely settled and the farmers increase their herds of milch cows, share in the general prosperity which organized dairying is certain to bring about when conducted along the right lines.

CHEESE FACTORIES IN ALBERTA, 1908.

CHEESE FACTORY	POST OFFICE ADDRESS	PROPRIETOR
1. Erskine. . .	Erskine, Alta. . . .	Hugh McDonald.
2. Spring Bank . . .	Spring Bank, Alta. . . .	W. H. Shoup.
3. Bentley. . .	Bentley, Alta.	J. F. Millar.
4. Eckville. . . .	Burnt Lake, Alta. . . .	T. B. Millar.
5. Burnt Lake. . . .	Burnt Lake, Alta. . . .	T. B. Millar.
6. Westbrook. . . .	Cochrane, Alta.	J. T. Boucher.
7. Kansas.	Kansas, Alta.	Slipp & Jamieson.
8. Cremona.	Cremona, Alta.	Slipp & Jamieson.

IV.—CREAMERIES OPERATED BY THE GOVERNMENT.

Twenty-one creameries were operated by the department during the season of 1908 at the request and on behalf of the co-operative associations owning them. Table I presents a record of the growth, or otherwise, of the business of the several creameries working under government management, giving patronage, milk and cream supply, butter output, average price and gross value at the creamery of the product.

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA 1897 TO 1908, INCLUSIVE.

NAME OF STATION	Season	No. of Patrons	Inches of Cream Supplied	Lbs. of Cream Supplied	Lbs. of Milk supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb. (Cents)	Manufacturing Charge per lb. (Cents)	Number of days in operation	Gross value of product \$
Calgary	1897	31	7,065 1		168,957	14,071	19 40	4	146	2,729 80
	1898	59	15,627 0		125,186	19,389	20 25	4	168	3,926 70
	1899	43	24,806 7			24,677	21 55	4	174	5,319 47
	1900	65	31,624 2			34,099	20 21	4	178	6,893 20
	1901	64	27,427 6			28,178	19 28	4	163	5,435 20
	1901-2	141	27,168 3			27,828	24 56	4	177	6,834 84
	1902	41	16,981 0			19,162	23 89	4	184	4,578 43
	1902 3	12	655 5			639	25 00	4	32	159 75
	1903	58	30,482 1			33,286	20 05	4	184	6,675 14
	1904	20	12,450 5			14,018	20 90	4	179	2,930 31
	1905	56	29,788 2			33,312	21 07	4	167	7,019 19
	1906	54	24,708 8			27,169	21 647	4	148	5,881 38
	1907	14		16,136		5,028	23 715	4	90	1,192 42
	1897	90	13,901 7		327,451	27,364 3	17 68	4	151	4,840 26
Edmonton.	1898	48	12,346 3		115,036	17,068	18 80	4	126	3,209 19
	1899	49	14,149 9		70,144	17,322	20 96	4	160	3,631 56
	1900	51	18,693 7			17,089	20 60	4	168	3,520 61
	1901	59	17,210 9			16,508	20 00	4	153	3,302 29
	1902	37	13,012 8			14,217	19 93	4	143	2,833 92
	1903	51	14,757 0			16,348	19 76	4	122	3,231 40
	1904	27	9,128 7			11,758	20 50	4	118	2,410 92
	1897	81	19,143 9		390,645	38,621	18 91	4	154	7,304 36
Innisfaul.	1897-8	73	5,485 5		133,597	12,114	23 79	4	181	2,882 38
	1898	105	39,003 5		437,405	57,717	20 40	4	184	11,775 55
	1898 9	107	18,072 0		148,904	22,664	23 10	4	181	5,237 25
	1899	156	68,924 8		349,682	86,040	20 69	4	184	17,805 53
	1899-0	90	21,156 4		6,770	18,895	23 65	4	181	4,469 63

TABLE I—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA, 1897 TO 1908 INCLUSIVE—Continued.

NAME OF STATION	Season	No. of Patrons	Inches of Cream supplied	Lbs. of Cream supplied	Lbs. of Milk supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb. Cents	Manufacturing Charge per lb. Cents	Number of days in operation	Gross value of product
Innisfail	1900	130	84,429.2			80,402	20 05	4	184	\$17,926 15
	1900-1	98	21,767 3			21,795	23 39	4	181	5,098 84
	1901	131	83,388 3			90,484	19 16	4	184	17,338 49
	1901-2	75	13,445 1			12,721	24 54	4	92	3,122 09
	1902	124	90,329 6			90,245	20 86	4	184	20,709 49
	1902-3	166	41,265 2			42,634	24 30	4	183	10,362 42
	1903	180	118,428 5			141,372	19 34	4	184	27,338 41
	1903-4	107	24,816 0			27,559	24 54	4	179	6,765 52
	1904	193	126,223 2			158,719	20 64	4	181	32,774 11
	1904-5	130	28,600 9			31,730	25 00	4	180	7,935 40
	1905	204	152,258 4			199,466	21 44	4	188	42,780 52
	1905-6	156	35,834 2			42,320	25 37	4	181	10,739 12
	1906	233	144,736 8			186,486	21 589	4	187	40,261 03
	1906-7	173	31,333 9			35,380	27 848	4	174	9,852 65
	1907	179	17,953 2			119,834	23 468	3 989	189	28,123 01
	1907-8	97		305,116 2		22,191	30 322	4	182	6,728 81
	1908	157		78,626 0		113,056	25 674	3 253	167	29,539 38
Red Deer	1897	66	22,079.5		225,067	30,148	18 70	4	153	5,639 83
	1897-8	54	8,604 0		97,777	11,104	22 93	4	181	2,546 57
	1898	76	28,253 9		217,572	42,878	19 84	4	184	8,507 54
	1898 9	68	12,148 8		127,724	19,782	23 07	4	181	4,565 42
	1899	110	46,676 0		157,306	62,142	20 86	4	184	12,968 23
	1899 0	51	13,173 5			15,477	23 90	4	181	3,711 38
	1900	92	49,475 0			63,559½	20 25	4	182	12,933 18
	1901	111	47,665.2			60,450	19 16	4	188	11,583 12
	1902	83	43,181.4			55,091	20 54	4	181	11,320 28
	1902-3	72	17,407.5			21,196	24 30	4	183	5,152 69
	1903	179	63,289 8			80,516	20 37	4	184	16,410 21

1903-4	100	17,444 3	19,627	24.69	4	179	\$ 4,847.76
1904	98	58,973 1	74,447	20.63	4	181	15,365.16
1904 5	129	20,193 5	23,812	25.08	4	178	5,974.00
1905	131	80,335 9	101,031	21.41	4	188	21,634.92
1905-6	174	31,068 8	35,354	25.26	4	181	8,984.34
1906	161	83,088 0	100,036	21.315	4	187	21,323.57
1906-7	83	17,154 9	20,358	27.882	4	174	5,676.23
1907	83	12,670 0	53,224	23.481	4	189	12,497.95
1907 8	69		14,931	30.123	4	182	4,497.72
1908	125		87,585	25.539	3.394	167	22,308.06
1897	47	2,669 7	17,691½	18.68	4	125	3,306.43
1898	58	8,576 5	27,136	20.08	4	192	5,449.65
1899	71	14,815 4	32,350	20.98	4	184	6,789.29
1899-0	35	4,780 1	7,637	23.80	4	181	1,824.95
1900	66	16,384 1	33,770	20.10	4	184	6,787.70
1900-1	37	4,236 2	4,882	23.21	4	181	1,133.52
1901	27	7,918 1	12,185	19.18	4	160	2,338.10
1903	32	15,447 1	18,667	19.34	4	153	3,610.63
1904	9	2,249 8	2,501	21.22	4	64	530.75
1905	158	69,208 7	83,807	21.28	4	195	17,836.80
1906	100	56,579 7	72,021	21.073	4	195	15,176.95
1907	38	1,318 3	17,194	22.598	4	189	3,885.64
1908	32		20,124	24.988	4	167	5,028.61
1899	66	6,350 2	14,655	21.78	4	112	3,192.51
1899 0	52	8,481 1	10,009	23.95	4	181	2,397.80
1900	75	37,374 1	45,755	20.04	4	184	9,173.08
1900 1	46	7,696 4	7,874	23.02	4	181	1,812.80
1901	41	28,235 8	31,527	19.15	4	184	6,037.87
1901 2	35	9,454 1	9,000	24.45	4	181	2,200.82
1902	64	42,055 5	48,086	20.79	4	174	9,997.71
1902-3	50	10,866 4	10,608	24.20	4	183	2,577.46
1903	74	46,639 2	51,169	19.28	4	184	9,864.96
1903 4	45	7,981 1	7,432	24.63	4	180	1,830.55
1904	57	36,368 0	43,725	20.50	4	181	8,967.39
1904 5	56	9,726 3	9,757	25.03	4	181	2,443.08
1905	78	52,398 7	65,536	21.39	4	188	14,024.56
1905-6	85	17,659 9	20,315	25.27	4	181	5,134.62

Red Deer

Wetaskiwin.

Tindastoll.

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA, 1897 TO 1908 INCLUSIVE—Continued.

NAME OF STATION	Season	No. of Patrons	Inches of Cream supplied	Lbs. of Cream supplied	Lbs. of Milk supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb. Cents	Manufacturing Charge per lb. Cents	Number of days in operation	Gross value of product
Tindastoll	1906	106	68,523 5			89,471	21 326	4	187	\$19,080.85
	1906-7	86	17,477.8			20,436	27 882	4	174	5,654 14
	1907	106	17,404 6	168,501 3		82,322	23 227	3 728	189	19,121 02
	1907-8	75		49,244 0		14,907	30 057	4	182	4,480 71
Cardston	1908	101		251,740 4		90,951	25 478	3 377	167	23,172.60
	1899	14			101,075	4,142	22 402	4	130	927.91
	1900	31	11,597 6			11,007	20 00	4	93	2,201 70
	1901	30	22,195 5			22,166	19 11	4	169	4,236 98
Olids	1902	49	38,892 1			42,637	20 73	4	217	8,841 31
	1903	79	53,879 3			65,904	19 29	4	181	12,714 40
	1903-4	50	7,764 1			7,732	24 61	4	180	1,903 04
	1904	58	38,850 1			48,338	20 59	4	181	9,956 80
	1904 5	56	9,400 8			9,881	24 90	5	180	2,461.03
	1905	110	80,644 6			103,506	21 38	4	188	22,136 38
	1905 6	77	19,302 1			21,353	25 22	4	181	5,386 30
	1906	117	80,128 1			105,129	21 376	4	187	22,472.11
	1906-7	63	14,150 3			16,262	27 667	4	174	4,531 88
	1907	114	9,334 3	186,071 0		71,678	23 279	3 77	189	16,686 13
	1907-8	48		35,685 0		9,621	30 118	4	182	2,897 69
	1908	79		190,450 0		63,656	25 518	3 763	167	16,243.94
Blackfalds	1903	84	29,541 8			35,981	19 29	4	120	6,941 55
	1903-4	28	1,239 3			1,354	24 46	4	27	331.21
	1904	81	32,384 4			40,048	20 50	4	181	8,212 39
	1905	120	59,386 2			76,703	21 30	4	188	16,340 89
	1906	153	67,987 2			90,285	21 12	4	187	19,068 65
	1906-7	53	9,739 8			11,300	27 602	4	174	3,119.06

Blackfalds	1907 1907-8 1908	83 30 79	5,331.4	108,299.05 22,657.4 137,185.7	.. .. ..	40,345 6,836 45,728	23.19 30.021 25.493	4 4 4	189 182 167	\$ 9,356.22 2,052.25 11,657.49
Lacombe	1903 1904 1905 1906 1907 1908	51 54 105 108 19 15	10,831.6 19,200.9 47,485.0 48,569.1 1,198.5 ..	 26,298.55 13,586.0	.. .. .. .. .. ..	14,138 22,587 59,768 63,729 12,465 4,970	19.31 20.44 21.29 20.964 22.705 23.970	4 4 4 4 4 4	98 181 188 187 134 74	2,730.10 4,617.51 12,728.61 13,352.51 2,830.28 1,191.32
Beaver Hills	1905 1906	44 21	14,183.8 4,731.1	.. ..	..	19,527 6,482	20.77 20.208	4 4	134 67	4,057.14 1,309.90
Clover Bar.	1905 1906	58 47	12,565.4 12,665.8	.. ..	..	13,057 14,090	21.57 20.788	4 4	120 132	2,817.38 2,929.18
Earlville	1905 1906 1907 1908	73 141 65 69	22,834.3 71,876.0 5,974.9 ..	.. .. .. ..	.. 81,836.5 125,690.3	30,681 90,768 34,429 38,714	21.55 21.219 22.949 25.492	4 4 3 3	120 216 181 188	6,612.68 19,260.13 7,901.31 9,869.09
Evarts	1905 1906 1907 1907-8 1908	80 79 59 19 49	24,244.4 35,210.8 4,423.1 .. ..	.. .. .. .. ..	.. 60,683.1 13,617 84,407.2	27,036 37,292 23,390 3,593 26,012	21.01 21.126 22.819 29.971 23.418	4 4 4 4 4	154 188 186 182 167	5,682.33 7,878.48 5,337.51 1,076.96 6,611.80
Ferry Bank	1906 1907 1907-8 1908	92 89 31 89	43,255.0 16,979.7 .. ..	.. .. .. ..	.. 96,371 5,568 130,776.5	54,999 53,430 1,666 44,551	21.081 23.17 30.00 25.435	4 3 4 4	173 188 27 167	11,594.57 12,380.11 499.44 11,332.34
Martins.	1906 1907	82 23	.. ..	95,959 11,494	.. ..	31,151 3,966	20.505 21.52	5 4	153 92	6,017.75 853.49
Pine Creek, (Lakeview)	1906 1907 1907-8 1908	58 60 18 62	20,650.3 7,487.2 .. ..	.. .. .. ..	80,158.9 1,270 92,454.1	24,274 31,400 317 26,938	21.798 23.3402 30.22 25.611	4 4 4 4	117 195 13 158	5,291.47 7,329.05 95.80 6,899.17

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA, 1897 TO 1908 INCLUSIVE—Continued.

NAME OF STATION	Season	No. of Patrons	Inches of Cream supplied	Lbs. of Cream supplied	Lbs. of Milk supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb. Cents	Manufacturing Charge per lb. Cents	Number of days in operation	Gross value of product
Rosenroll	1906	63	15,752 4			20,506	21.184	4	126	\$ 4,344.01
	1906-7	8	759 3			848	27.421	4	56	232.53
	1907	40	1,014 8		34,022 4	11,722	22.41	4	134	2,626.92
	1908	47			88,316	26,564	25.319	4	170	6,725.79
Stettler	1906	76	23,726.1			29,439	21.088	4	146	6,208.11
	1907	57	1,402 7		67,879 9	23,605	22.71	4	172	5,360.69
	1908	44			49,694 9	17,113	25.192	4	153	4,311.04
Stony Plain	1906	64	6,122 8			7,029	21.460	4	64	1,508.46
	1907	35	2,201 7			2,756	22.053	4	48	607.79
Content.	1907	60	2,598 1		71,423 3	26,725	22.942	4	174	6,131.29
	1908	81			128,697	42,196	25.384	3 581	188	10,711.03
Crossfield.	1907	24			15,804 5	4,292	22.1645	4	69	951.30
Rimbey.	1907	39			17,998	5,938	22.8583	4	61	1,361.08
	1908	51			61,893	20,148	25.327	4	157	5,103.02
Lamerton	1907	60			72,304 85	21,917	22.6503	4	152	4,966.26
	1908	49			52,355 9	19,303	25.321	4	152	4,887.69
Spring Lake	1907	24			23,045	7,528	23.797	4	94	1,791.51
	1908	52			95,797 5	32,480	25.177	3.792	188	8,177.61
Vegreville	1908	29			18,098	5,085	23.967	4	76	1,218.75
Bonnie Glen	1908	27			20,016	5,949	25.02	4	110	1,488.46
Vernilion.	1908	77			67,876 3	20,200	25.213	4	105	5,093.02
Conjuring Creek	1908	56			75,189 4	22,915	25.228	4	160	5,781.03

Table II presents a summary of the foregoing by summer and winter seasons respectively. The steady upward tendency of prices for butter will be clearly noted, especially for the last two years.

TABLE II.—TOTALS OF THE FOREGOING BY SEASONS.

SEASON	No. of cream-ers	No. of Pat-rons	Inches of Cream supplied	Lbs. of Cream supplied	Lbs. of Milk supplied	Lbs. of Butter manufactured	Avr'ge price real'd at cr'y per lb.	Gross value of Product
							Cents	
1897	5	315	64,859.9		1,455,100	127,896½	18.625	\$ 23,820.68
1897-8	2	127	14,089.5		231,374	23,218	23.382	5,428.95
1898	5	346	103,807.2		1,352,113	164,188	20.018	32,868.63
1898-9	2	175	30,220.8		276,628	42,446	23.094	9,802.67
1899	7	509	175,723.0		1,244,194	241,328	20.981	50,634.50
1899-0	4	228	47,591.1		100,471	52,018	23.845	12,403.76
1900	7	510	249,577.9		373,928	294,981½	20.148	59,435.62
1900-1	3	171	33,699.9		29,486	34,551	23.284	8,045.16
1901	7	463	234,241.4		80,579	261,498	19.224	50,272.05
1901-2	3	251	50,067.5			49,549	24.536	12,157.75
1902	6	398	244,452.4			278,438	20.931	58,281.19
1902-3	4	300	70,195.6			75,077	24.311	18,252.32
1903	9	788	383,296.4			457,411	19.570	89,516.80
1903-4	5	330	59,244.8			63,704	24.610	15,678.08
1904	9	600	335,828.7			416,141	20.609	85,765.34
1904-5	4	371	67,921.5			75,180	25.024	18,813.51
1905	12	1,217	645,333.6			813,430	21.350	173,671.40
1905-6	4	492	103,865.0			119,542	25.300	30,244.38
1906	18	1,755	808,311.5	95,959		1,050,356	21.227	222,959.11
1906-7	7	526	96,843.2			111,774	27.784	31,053.10
1907	21	1,268	107,292.5	1,600,986.71		653,208	23.161	151,291.78
1907-8	8	387		258,533.9		74,062	30.149	22,329.38
1908	21	1,370		2,377,474.2		776,241	25.432	197,411.24
			3,926,463.4	4,332,953.81	5,143,873	6,256,237½		\$1,380,137.40

Table III deals with the summer season's business only. It may be mentioned here that the periods referred to in the three columns to the right were as follows: 1st, from the beginning of the summer season to May 30th; 2nd, from May 30th to August 22nd, and 3rd, from August 22nd to October 17th, the end of the season. As explained in my report for 1906 this division of the season is made in order that the farmers who patronize the creameries throughout the season may receive full credit for the higher prices usually realized for butter made and sold in the spring and in the autumn. Reference to this table will show in a striking manner the justice of such a division of the season.

The butter output of the government operated creameries is being marketed largely in British Columbia, and through the jobbing trade at Vancouver, in the Yukon Territory as well. Comparatively little is sold for consumption in this province, the market here being supplied largely by the product of farm dairies and of individual creameries.

TABLE III.—SUMMARY OF THE BUSINESS DONE FOR THE SUMMER SEASON, 1908, AT THE PROVINCIAL GOVERNMENT CREAMERIES IN ALBERTA.

CREAMERY AT	No. of Pat- rons	Butter Manu- factured lbs.	Value at Creamery	Av'ge price at Cream'y for sea'n	Av'ge prices by Periods		
					1st Period	2nd Period	3rd Period
				Cents	Cents	Cents	Cents
Olds...	79	63,656	\$16,243 94	25 518	27 240	24 198	27 924
Innisfail..	157	115,056	29,539 38	25 674	27 275	24 106	28 184
Tindastoll	101	90,951	23,172 60	25 478	27 150	24 104	27 861
Red Deer	125	87,585	22,368 06	25 539	27 200	24 067	27 858
Evarts	49	26,012	6,611 80	25 418	27 080	24 094	27 930
Blackfalds	79	45,728	11,657 49	25 493	27 207	24 032	27 765
Lacombe	15	4,970	1,191 32	23 970		23 970	
Content..	81	42,196	10,711 03	25 384	26 978	23 894	27 785
Earlville.	69	38,714	9,869 09	25 492	27 000	23 961	27 986
Ferry Bank.	89	44,554	11,332 34	25 435	27 040	23 951	27 970
Wetaskiwin	32	20,124	5,028 61	24 988		23 882	27 503
Rosenroll	47	26,564	6,725 79	25 319	27 000	23 886	27 889
Vegreville	29	5,085	1,218 75	23 967		23 423	27 011
Bonnie Glen	27	5,949	1,488 46	25 020		23 892	27 855
Vermilion.	77	20,200	5,093 02	25 213		23 317	27 287
Stettler.	44	17,113	4,311 04	25 192	26 950	23 923	27 680
Lakeview.	62	26,938	6,899 17	25 611	27 150	24 057	28 040
Conjuring Creek.	56	22,915	5,781 03	25 228	27 027	23 905	27 741
Rimbey	51	20,148	5,103 02	25 327	27 014	24 000	27 952
Lamerton....	49	19,303	4,887 69	25 321	27 000	23 933	27 812
Spring Lake	52	32,480	8,177 61	25 177	26 870	23 935	27 461
Totals and Averages	1,370	776,241	\$197,411 24	25 423	27 127	24 010	27 885

V.—CONVENTION AT EDMONTON.

The annual convention of delegates from the associations whose creameries are operated by the government has now become an established institution and is regarded by the associations as a most valuable aid to the smooth working of the creamery industry.

The delegates in attendance, usually the chief officers of the associations, have a splendid opportunity not only to discuss with the department matters immediately concerning the operations of the creameries but also to compare notes and exchange views and experiences with one another to mutual advantage. There are many knotty problems in connection with the local management of co-operative institutions which demand attention and solution from time to time.

The 1908 convention was held in the library of the legislative building in the City of Edmonton on January 21st, in response to the following letter addressed to the secretaries of the associations:

CALGARY, December 23, 1907.

"DEAR SIR,—I am directed by the Honourable the Minister of Agriculture to call a conference of representatives from the various associations whose creameries have been operated by the Government during the past season.

"The conference will be held at Edmonton on Tuesday, January 21st, and your association is hereby invited to send two delegates who should arrange to reach Edmonton on the 20th.

"The conference is called for the purpose of discussing with the Department the future management of the creamery business, the agreement under which we are working at present terminates on April 30th next, and it is desired that the delegates be authorized to speak and act on behalf of the board of directors and association which they represent.

"The president and secretary of your association, by virtue of their respective offices and their more intimate knowledge of the administrative and financial work of the association, would undoubtedly be the most suitable delegates to send, although if either be unable to go a substitute may be appointed by your board to act in his stead.

"Some of the associations have had to face several difficult problems during the past season, such as:

"(1) Unsatisfactory arrangements for cream collection and deliveries.

"(2) Weakness in the field work.

"(3) Disregard and repudiation of pledge on the part of stock subscribers and suppliers of cream.

"(4) Financing.

"The delegates are advised to bring note book and pencil with them and be prepared to discuss the above points and any others that may be submitted for the consideration of the conference. The older established associations will be able and, I am sure, glad to give younger organizations the benefit of their experience and practice. It being the desire of the Minister that this conference be made as valuable as possible to all concerned.

"Kindly arrange for the appointment and instruction of your delegates, submitting their names to this office as soon as possible, also if your association wishes to present any other important subject for discussion I shall be glad to have the particulars in order that such may be included in the programme. One of your delegates will, in that case, be invited to introduce the subject.

"Faithfully yours,

"C. MARKER.

"*Dairy Commissioner.*"

Responding to this invitation the associations were represented at the convention as follows:

The Olds Creamery Association by R. Hunt and Tom L. Buckton.

The Tindastoll Butter and Cheese Manufacturing Association by D. Morkeberg and J. Benedictson.

The Red Deer Butter and Cheese Manufacturing Association by E. Carswell and C. J. B. Ward.

The Blackfalds Butter and Cheese Manufacturing Association by Joseph Barron and G. L. Gregson.

The Earlville Butter and Cheese Manufacturing Association by G. Malchow and T. W. Fry.

The Wetaskiwin Dairy Company by C. F. Sjolund and A. S. Rosenroll, M.P.P.

The Innisfail Butter and Cheese Manufacturing Association by Joseph Smith and E. J. Fream.

The Medicine Valley Creamery Company by J. H. Robinson and E. S. Hussey.

The Lacombe Butter and Cheese Manufacturing Association by D. C. Gourlay and Col. J. J. Gregory.

The Rosenroll Creamery Association by F. Langston and A. C. Hoover.

The Springlake Dairy Association by F. W. Bryenton.

The Lake View Creamery Association by Donald Cameron and G. McComb.

The Battle River Creamery Association (Ferry Bank) by E. R. and A. J. Olmstead.

The Blind Man Valley Creamery Association by J. H. Beeley and T. A. Iddings.

The Content Creamery Association by Edwin Allison and S. P. Atherton.

The Bonnie Glen Butter Association by John Smith and M. T. Orrock.

The Conjuring Creek Creamery Company by J. M. Howard and C. B. Shantz.

The Department of Agriculture was represented by the Honourable W. T. Finlay, Minister of Agriculture, C. Marker, dairy commissioner, and F. W. Underwood, of the dairy commissioner's office as secretary of the convention.

The opening meeting was honoured by the presence of the following Members of the Legislature then in Session: W. F. Puffer, J. W. Woolf, F. Bredin, R. T. Telford, John T. Moore, John A. McPherson and J. A. Simpson.

At the opening of the convention the Hon. Mr. Finlay was unanimously elected chairman and in assuming that duty he welcomed the delegates to the capital, expressed his pleasure at meeting so many representative dairymen of the province and assured them of his appreciation and hearty approval of the work their associations were doing for the advancement of the dairy industry of the province. He gave a brief outline of the policy and work of his Department respecting the development of agriculture in general and dairying in particular. He was pleased to say that a number of the creamery associations were now clear of debt and self-supporting, and would no doubt soon be able to conduct their own business, and he stated that the department would be pleased to see them do so just as soon as they felt able, assuring them at the same time of the continued good will and co-operation of the department. He invited the delegates to make the most of the convention, to have a full and free discussion of the many matters which would be brought forward for their consideration and in conclusion called on the dairy commissioner to present a statement of the business of the Government creameries for the previous year.

C. Marker presented an outline of the creamery work for 1907 respecting both the manufacturing and marketing end of the business. He illustrated by charts, graphically, the relative butter output, patronage and prices obtained at the various creameries and gave a review of market conditions in general so far as they affected the business of the creameries. He pointed out several weaknesses in connection with the co-operative creameries, some were alluded to in the letter calling the convention, and stated that in the final analysis the success or failure of a co-operative movement of whatever nature must rest with the members of the organization themselves, and depend upon the manner in which they discharge the obligations which they have voluntarily assumed. He commended the various matters to the serious consideration of the delegates present and urged that definite action be taken and an effort made to strengthen the weak points in the organization.

One very serious weakness in our dairy industry is that in the majority of cases the dairy cows do not get the care and attention they should have in order to yield their owners a profit at the end of each year. Our dairy stock is yet too much at the mercy of unusual climatic conditions. This was brought home to us in a very striking manner last year when the butter production showed a decrease of some 40 per cent. as compared with the previous year, and apparently all on account of the severe winter of 1906-7. Generally speaking our winter climate is not hard on cattle which are properly fed and watered but the very strenuous weather conditions of the winter referred to emphasized the necessity for suitable shelter as well. This is regarding the matter simply from a commercial viewpoint aside from its humanitarian aspect.

Before concluding the morning's session the chairman expressed his pleasure at seeing several of the members of the Legislature present and invited them to address the delegates.

Their speeches were of a congratulatory nature, commending both the department and the individual creamery organizations of the province on the development of this very important branch of the farming industry. Dairy development means better chances for the new settlers, increased returns from the land, denser population and greater prosperity in every department of business. They all urged the farmers to stick loyally to their own organizations.

The Hon. Mr. Finlay announced at the conclusion of the meeting that he should have to attend to his duties in the Legislature in the afternoon and asked the convention to appoint another chairman to conduct their deliberations. Mr. S. P. Atherton, of Content, was unanimously elected.

Marketing of Butter.

The discussion at the afternoon meeting had reference largely to the points raised at the morning's session and showed that the delegates had a good grasp on the subjects in hand.

The question of marketing butter elicited a good deal of attention. The dairy commissioner stated that 90 per cent. of the butter manufactured in Government creameries during the season of 1907 had been sold to the jobbing trade and ten per cent. to retailers and some of the delegates thought that if a larger proportion could be sold to retailers, a higher price could be obtained. After a full discussion from several points of view the meeting came to the conclusion, which was afterwards embodied in a resolution, that the department had followed a safe and satisfactory course in the marketing of the butter of the Government creameries.

Cream Collection.

One of the most difficult problems that many local creameries have to deal with is that of cream collection. Sparse settlement and comparatively small dairy herds mean that the cream collectors must travel long distances in order to gather even a fair load of cream and the cost of that service is sometimes greater than the business will stand, especially if collections are to be made sufficiently often to insure the cream reaching the creamery in good condition. Many suggestions were made by the delegates as to how this service could be made most efficient and yet not too expensive, but the consensus of opinion was that the cream collections should be conducted on a rate basis and at a fixed price per pound of butter fat contained in the cream collected. The cream haulers would thus become active agents in extending the field of business of the creamery and at the same time add to their own income from that source.

While the payment for cream collection and delivery ought in every instance to be calculated upon a rate per pound basis, new organizations are often compelled at the beginning of their career to adopt the "per trip" method. If under such circumstances the collectors have no other object than merely to make their trips and draw their pay irrespective of the number of patrons and quantity of cream secured the business of the creamery is sure to suffer a severe set back, one way or another. Their personal interest in their work and in the welfare of the organization they serve is essential and should be secured, but in any case hard and persistent field work is necessary on the part of the directors who are charged with the duty of developing the business of the associations.

One of the delegates was of the opinion that in some cases it may be advisable, perhaps necessary, for the associations to provide a conveyance of their own to collect cream, in the thinly settled districts tributary to their creameries.

The Moral and Commercial Value of a Pledge.

There was considerable discussion as to how the associations should deal with their stockholders who refuse to pay the calls made

upon their stock, and what action ought to be taken against persons who repudiate their agreement to supply cream to their creameries.

It was pointed out that in both cases The Dairymen's Act 1907 provides a remedy, but the directors in most instances hesitate to invoke its aid because they know that litigation does not promote between the principals that harmony which is so essential to the successful working of all co-operative movements.

The only alternative would seem to be that in making the initial canvas for both cream supply and capital stock the greatest care should be exercised by the leaders of the movement to see that only reliable and responsible persons be allowed to become stockholders. The "dead wood" on a stock list is not much of an asset to any organization.

Financing Creamery Associations.

The general financial stringency of 1907 which affected nearly every line of business, directly or indirectly, and exposed the weak points in many organizations, had a telling effect also upon some of the co-operative creamery associations which had been financing their obligations largely through their local banks.

In some cases, it was reported, the associations had been informed gently but firmly that they would have to pay up or submit to being closed down. In any case the security demanded by the banks was such that it would severely handicap financially most of the luckless individuals who happened to be members of the boards of directors at the time. A committee was appointed by the convention to interview the government and see if a special loan could not be obtained to tide the associations over their difficulties. The following gentlemen comprised the committee, viz.: W. F. Puffer, M.P.P.; John A. Simpson, M.P.P.; T. A. Iddings, John Smith, J. W. Howard, T. W. Fry, Col. J. J. Gregory, F. Langston, E. R. Olmstead and F. W. Bryenton.

As a result of the conference of the above mentioned committee with the government the sum of \$21,411.06 was placed in the estimates and voted by the Legislature under the head of "Loans to Creameries," to be advanced upon the conditions, "that the government be given a first mortgage on the properties of the associations, bearing interest at the rate of five per cent per annum, payable on or before the 31st day of December of each year during the life of the mortgage." The mortgages were to be fully paid up by the end of the number of years set out in each case; "that in repayment of the principal of the mortgage the government be authorized to make an assessment on the butter manufactured during the year of one cent per pound, the same to be paid to the Provincial Treasurer on or before the 31st day of December of each year, provided that any association may make payment on the principal at any time of such sums as they may desire in addition to the assessment," and "that in the event of any association ceasing operation the full amount of the mortgage becomes due and payable."

The Working Agreement.

Following is the agreement under which the creameries were operated by the government for the year 1908 and, with it the rules referred to in section 4, viz.:

MEMORANDUM OF AGREEMENT BETWEEN

AND THE DAIRY COMMISSIONER, ACTING FOR THE DEPARTMENT OF AGRICULTURE
FOR THE PROVINCE OF ALBERTA.

1. The
(hereinafter called the association) agrees to provide suitable buildings and premises fully equipped for the manufacture of butter, and a sufficient supply of pure water and good drainage, all to the satisfaction of the dairy commissioner, for carrying on the business of manufacturing butter at
in the Province of Alberta.

2. The association guarantee a cream supply to the creamery from at least four hundred cows for a period of not less than five months per year.

3. The association agree to give and assure to the Department of Agriculture free and undisturbed possession of the creamery buildings, premises and plant for a term of not less than one year from the first of May, 1908.

(2) Any charge or claim on the buildings, premises or plant, on behalf of any person or persons whatsoever, is not to be considered as a claim on the Department of Agriculture.

4. The association, through its board of directors, agree to use all reasonable means to promote the interests of the creamery and to secure persons who will furnish a supply of cream in accordance with the rules and regulations attached to, and forming a part of, this agreement.

5. The association agree that the cream shall be delivered at the creamery free of charge to the Department of Agriculture and that the cream shall be delivered by, or collected from, each patron such number of times each week as may be required by the dairy commissioner.

6. The association hereby authorize the dairy commissioner from time to time to provide on its behalf and at its expense any addition to the buildings, equipment, water supply and drainage not in the nature of repairs which he may consider necessary for the dispatch and efficiency of the work in the creamery.

7. In consideration of the foregoing, the dairy commissioner agrees to manufacture from the cream which may be accepted at the creamery a first class quality of butter.

(2) The right to reject any cream which he considers unfit for making into a first class quality of butter is reserved to the buttermaker in charge of the creamery, and his judgment and decision in the matter shall be final.

8. The dairy commissioner agrees to market the butter to the best of his judgment and ability, and to pay the persons supplying the cream, the net proceeds realized from all sales of butter and buttermilk, in proportion to the quantity of butter made from the cream furnished by each, after deducting—

(1) The actual cost of manufacturing and care of the butter in cold storage until it be finally disposed of. This charge is not to exceed four cents per pound of butter;

(2) Any charge which the board of directors of the association may direct to be paid for the delivery of cream to the creamery; and

(3) Such further charge or assessment as may be made on the manufactured butter for the purpose of a loan fund or a local working fund, or both, as set out in sections 12 and 13 of this agreement.

9. The dairy commissioner agrees to pay to the said persons supplying the cream, severally, every month, such advances as he may estimate to be about two-thirds of the net value of the cream supplied by them or each of them.

(2) Such advance payments shall be made in even dollars, and no advance payment shall be made for less than two dollars.

10. The dairy commissioner agrees to provide the labour, fuel, ice, packages and all other furnishings which are necessary in the operation of the creamery, to arrange for the necessary transportation of butter and sundry supplies between the creamery and nearest railway station, and to care for the butter in cold storage until it is sold and shipped from or Calgary.

11. The dairy commissioner agrees to insure the butter against loss by fire, as trustee for, and on behalf of the persons supplying the cream, to the amount of two-thirds of its estimated market value, but the creamery buildings, premises and plant are to be insured by the association on its own behalf, and the Department of Agriculture is not to accept or have any responsibility or liability in that connection. In any case in which the association is indebted to the Government the premium receipt or any renewal receipts for such insurance shall be sent to the dairy commissioner.

12. For the season 1908 the loan fund charge shall be cent per pound of butter manufactured, said charge to be applied as follows:

(1) On the repayment of any loans heretofore or hereafter obtained by the association from the Government.

- (2) In payment of plant and equipment supplied or which heretofore may have been supplied and installed by the Government the property in which said plant and equipment is to remain in the Government until it is paid for.
13. The local working fund charge shall be not more than . . . cents per pound of butter manufactured and shall be applied as follows:
- (1) Towards the payment of an annual rental for the plant and equipment furnished, or heretofore furnished, by the Government reckoned at the rate of three per cent. of such portion of the cost of the plant and equipment as is unpaid, such rental to be computed on the first day of January following the year in which such plant and equipment, or any portion thereof, is installed, and on each first day of January subsequent thereto (or subsequent to the year in which such plant and equipment has been installed if it has been installed prior to the date hereof); but no deduction shall be made from such rental by reason of the receipt of the whole or any part of the purchase price of such plant and equipment before the end of the year in which the rental is so computed.
 - (2) Towards the payment of the interest upon loans made by the Government, upon mortgage security or otherwise.
 - (3) Towards the payment of interest on loans obtained from any other person or corporation than the Government.
 - (4) Towards the payment of a dividend of not more than . . . per cent. per annum on all paid up stock in the association.
 - (5) To provide for the insurance, taxes, up keep and depreciation of the property of, and for such other charges as may be authorized by, the association.
14. Provision is to be made for the issuing of paid up shares in the association to the persons supplying cream to the creamery in proportion to the amounts paid in by them severally to the loan fund, as set forth in section 12 of this agreement.
15. The dairy commissioner agrees to keep the creamery building and plant in a good state of repair, ordinary wear and tear, damage by fire, lightning, tempest and other casualty excepted.

Dated at . . . this
day of . . . A D. 1908.

WITNESS:

President of the Association.

WITNESS:

Secretary of the Association.

WITNESS:

Dairy Commissioner.

NOTES FOR CREAMERY PATRONS.

The following circular letter was sent to all patrons:

Only Good Cream Accepted.

1. The right is reserved to the buttermaker in charge to reject any cream which he considers unfit for making into first class butter, whether such cream is delivered by the patrons individually or by cream haulers. His judgment and decision in the matter shall be final, as he is held responsible for the quality of the butter made at the creamery.

Feeding, Milking, Etc.

2. Cream shall be furnished in a sweet and clean condition and only from the milk of healthy cows, fed upon wholesome feed and having access to plenty of pure water and, if possible, salt. The cows shall be prevented from eating any feed which will give an injurious flavor to the milk, they shall be milked in a cleanly manner, the milk strained through a fine wire gauze strainer as soon as drawn and removed from the stable to a place where the air is pure.

Clean Utensils.

3. All pails and other utensils used in the handling of milk and cream should be of bright tin and must be thoroughly washed and scalded each time after using. This applies also to the cream separator, notwithstanding claims which may be

made to the contrary by ignorant or unscrupulous agents in their anxiety to sell machines.

In washing dairy utensils use a good brush and a small quantity of fresh slaked lime stirred into the wash water. Lime is a purifier and will help greatly to keep utensils bright and fresh.

After washing and scalding tinware, etc., put them out on a rack where they may be exposed to direct sunlight, the greatest of all purifiers.

Cooling of Cream.

4. The cream should be cooled to, or below, 50 degrees Fahrenheit, immediately after being separated, and held at that temperature, in a place where the air is free from injurious odors, until called for by the cream hauler or taken to the creamery.

Once the cream is thoroughly cooled, under frequent stirring, a small quantity of ice put into the cooling water will keep the temperature down.

~~4.4~~ Do not mix warm cream with cold, but cool each lot separately before mixing and keep it covered and protected from dust and draught.

To Sum Up.

It is the aim of the creamery to secure for its patrons the highest possible price for butter. The markets want a choice article and are willing to pay a good price for it.

Therefore, give the creamery the benefit of your co-operation in this matter. Anything worth doing is worth doing well.

VI. -BUTTER AND CHEESE MAKERS' CONVENTION.

While we have as yet no regular dairy school course to offer the butter and cheese makers of the province, there is a growing need for the services of such an institution.

In order, however, to promote uniformity along the more important lines of dairy work and in addition to the assistance given by the provincial dairy instructors in their periodical visits to the creameries and cheese factories I had the honour of recommending that a convention be called of the butter and cheese makers of the province just before the opening of the season, for the purpose of discussing dairy matters in general.

Having obtained the approval of the department it was decided to have the convention at Red Deer, largely on account of its central location and of the good facilities it offered towards carrying out the work of the convention.

The following letter was addressed to the owners of the creameries and cheese factories in the province and to every butter and cheese maker whose address was available at the time. The local news papers very kindly gave wide publicity to the dates as well as to the subject matters to be discussed.

"DAIRY COMMISSIONER'S OFFICE,
CALGARY, March 28, 1908.

"DEAR SIR, -

Butter and Cheese Makers' Convention, April 7th and 8th.

"Referring to my letter of the 26th. You will find enumerated below some of the subjects which will be included in the programme, also the names of some of the speakers who will present them. Others will be added. Sufficient details are given, however, to indicate the nature and range of subjects which should be of immediate interest and value to every butter and cheese maker who aims to excel in his profession.

"The various numbers on the programme will be arranged to suit requirements of the convention as they may appear and it is hoped that those who attend will arrange to be present at every session.

Butter Show and Scoring Contest.

"A show of creamery butter will be held in connection with the convention and the buttermakers of the creameries who are now operating are cordially invited to bring an exhibit. Prizes will be awarded and presented at the public meeting which will be held in the evening of the 8th.

"It is hoped to make the butter show a permanent feature in connection with future conventions, and expected that the boys will show their interest in the matter by bringing exhibits with them to the convention this year.

Scoring Contest.

"A butter scoring contest will be conducted and suitable prizes offered for the most accurate work. Bring your butter trier along and be prepared to take part in the contest. Every buttermaker should be a good judge of butter and especially of workmanship. The enclosed score card will be used.

Instructions in Judging Dairy Stock.

Arrangements are being made to conduct a class in stock judging and instruction will be given by Mr. H. A. Craig, superintendent of institutes and fairs, and by Mr. J. G. Clark, who are both well and favourably known as expert judges with a wide practical experience, besides several successful local dairymen will lead in a discussion on the management of dairy herds. As the butter and cheese makers of the province are privileged to do a great deal of good missionary work in their respective districts, they will appreciate the value of the instruction placed within their reach at the convention.

Cheese Making.

"Cheese makers will be glad to learn that the discussion on this branch of dairying will be introduced by Mr. T. B. Millar, who has a long experience in the manufacturing as well as in the commercial department of the business.

Testing of Milk and Cream.

"This opens up a wide field for the discussion of methods and will include (1) sampling, (2) make up and care of the composite sample, (3) testing. Many of the factors which effect the final results of the test and "over-run" will be enumerated and discussed.

Steam Boilers and Engines.

"This subject will be presented, it is hoped, by one of the Government inspectors and deserves close attention.

Sanitation, Drainage and Water Supply.

"Another matter which has an important bearing on successful dairying and will be discussed by the provincial sanitary engineer.

The Buttermakers' Trouble Department.

"Under this head we shall discuss the principal difficulties which the buttermakers have to face in their daily work and in their relation with associated branches of the local creamery organization. Come prepared to join in a helpful discussion.

Labour Saving Appliances and Methods.

"This is another helpful department which will be given due prominence. If you can contribute, kindly be prepared to present a concise and clear statement.

Economics in the Factory.

"This subject will lead up to a most interesting discussion and one in which we should all be interested. It will deal with men and methods.

The Ideal Buttermaker, do you know him?

"An attempt will be made to draw a picture of him in his many relations with the somewhat complex conditions surrounding him in his work. You know

we must all work towards an ideal and if the members of the convention can set up such an ideal and steadfastly work towards it, the dairy industry of the province will be the better for it.

Speakers.

"The Hon. the Minister of Agriculture has kindly consented to honour the convention with his presence and an address. He will present the prizes to the winners in the various contests. The interest the Hon. Mr. Finlay has manifested in the work with which we are associated will make his presence at the convention greatly appreciated by all. We hope to have with us, also, the deputy minister. The undersigned and the dairy instructors will be in attendance and lend every assistance in our power towards making the convention the great success it deserves to be. I am sure everyone interested in dairying who can manage to attend will be imbued with the same spirit, the spirit and helpfulness of co-operation.

"The first session of the convention will commence at 2 o'clock p.m. on Tuesday, April 7th, and all meetings will be open to the public. Farmers and representatives of the press we cordially invite.

"Faithfully yours,

C. MARKER,

"Dairy Commissioner."

The first session opened as scheduled and some fifty butter-makers and creamery owners were in attendance. The convention was honoured with the presence of Hon. W. T. Finlay, Minister of Agriculture, and the deputy minister, Mr. Geo. Harcourt. The other speakers were H. A. Craig, superintendent of institutes and fairs for the province; J. G. Clarke, institute lecturer; T. B. Millar, cheese manufacturer; H. S. Pearson and Geo. W. Scott, provincial dairy instructors, and C. Marker, dairy commissioner. Representatives of the local press, of *The Farm and Ranch Review*, *The Winnipeg Free Press* and *The Edmonton Bulletin* attended and published excellent reports of the proceedings.

The Hon. W. T. Finlay was unanimously elected to the chair and in his opening address expressed his pleasure at meeting the men who represented an industry which was of so great importance to the agricultural population of Alberta. He believed that the dairy industry was as yet but in its infancy. Those in attendance should receive great benefit individually from the discussions and from the butter exhibits and scoring contests, such as were to be held in connection with the convention. All this would arouse a very keen interest, not only among the delegates but through them in their respective districts as well.

Commissioner Marker reviewed some of the features of the convention programme, which would be adapted as far as possible to the needs of those present. The improvement of dairying by education was their main aim, by the discussion of principles, methods and experiences. The cheese and buttermakers were the missionaries of improved dairying, and it must be largely through them that expert knowledge reaches the patrons.

Mr. T. B. Millar, of Burnt Lake, read a very able paper on cheese-making, dealing with the technical side of manufacturing, the necessity of pure milk, etc. Carefully kept records were a great aid to improvement. He expressed the opinion that the best cheese possible could be made in Alberta. He gave as his reasons that the Alberta atmosphere was pure, water supply abundant and pure, grass succulent and the nights cool.

A very interesting paper from R. B. Owens, B.S., B.E., provincial sanitary engineer, on "Water Supply and Disposal of Sewerage" was read. The means to employ when preparing to sink a well for water supply; the difficulties encountered in disposal of sewage

and the means employed to accomplish this under various conditions were outlined.

Hon. Mr. Finlay stated here that the services of the provincial sanitary engineer and of the provincial bacteriologist were always available to the dairymen who want to improve their equipment in regard to water supply and drainage.

At the evening session Mr. Marker gave a review of the dairy work of the province for the past two years, using charts for the purposes of illustration. Owing to the severe winter of 1906-7 and the following late spring the dairy products output for 1907 had been lower than that of 1906 by 40 per cent. but the average prices obtained had been higher. He showed, by comparisons of periods during the years, that the price of butter was relatively higher in the spring and fall than in the summer, but it appeared very difficult to get the farmers to increase their output at the most profitable seasons. He compared the prices received for butter by different creameries, and showed that the rates varied in proportion to the quantities made and sold during the respective periods, the creameries having a good output spring and fall as well as in summer would always get the best results. He made a comparison of prices current at Montreal and at Vancouver, each week during the season, showing that as a rule the price levels on the western markets were determined to a large extent by those of eastern points. The cost of manufacture of butter at the creameries could be materially lessened if the output were fairly evenly distributed during the season. There were only a few weeks during the season when the make really was large, then came a rapid decline. The problem was to adapt an irregular output to a fairly constant demand. In June, July and August more butter was made than the market required and the surplus had to be carried in storage by somebody for the autumn trade. He explained some of the factors governing prices and advocated all year dairying as the most profitable, but said that the difficulty at present in securing a milk supply in early spring, fall and winter was due to the fact that proper food and shelter were not as a rule provided for the dairy cows.

In the discussion following Mr. Marker's address, Mr. Craig advised the growing of more roots and of alfalfa as winter feed for dairy cattle. Until more succulent feed was grown and fed winter dairying could not be successfully conducted.

The use of green feed, cut at the proper time, and of grain for dairy cattle was recommended by several speakers. Tame hay, roots and chop was a good ration. If cows calved late in the year, and were properly housed and fed a liberal ration of some kind of succulent food, the milk flow would continue through the winter, and the cows would have the benefit of the spring grass before the flow had diminished to any noticeable extent. The dairymen could milk the cows nine or ten months, instead of five, as was common now.

Mr. H. S. Pearson gave an instructive talk on cold storage in connection with creameries. If butter was properly made it should be properly preserved. Mr. Pearson emphasized a cold, dry and pure atmosphere as the three factors to be considered in cold storage building. He strongly urged that the walls and the floors be kept dry and recommended an occasional application of hot lime wash on the walls for cleansing and purifying purposes. He gave a number of hints as to the care of butter in the creamery until it is shipped. The very best butter placed in too high temperatures will go off flavour rapidly, and therefore deteriorate in value.

A number of buttermakers took part in the discussion following Mr. Pearson's address and many useful points were brought out as to circulation of air, temperature, cleanliness, etc. A plan for creamery and cold storage was shown which, compared with the tube system now generally in vogue, would effect a great saving both of labour and of ice. Although the original cost of construction would be greater the saving in operation would more than compensate.

Butter Exhibit and Scoring Contest.

The morning and afternoon sessions of the convention on Wednesday were devoted largely to demonstration work.

In the morning the butter exhibits were judged and afterwards several classes were formed for the scoring contest. Nineteen of the buttermakers present joined the classes. The test consisted in making a complete score of several packages of butter of uniform size and shape, from which all marks of identification had been removed by the committee in charge, and arbitrary numbers substituted. On the completion of the scoring the contestants were required to turn in their score cards.

During an interval of about an hour the committee had rearranged the position and the numbers of the packages when the contestants were given fresh score cards and requested to again make a score of two or three packages indicated to them by the committee. This they did, without knowing that they were merely checking up their first scores.

The question of whether the awards made by the various contestants agreed with the "official" score was not taken into consideration when their relative standing was determined. It was purely a question of whether, and how closely, the separate scores agreed which they made of the same packages, whether the men really knew what they were doing each time they recorded certain figures as expressing the relative values of flavour, texture, etc., of the exhibits.

Several of the men did some very close scoring, showing good judgment of standards and an appreciation of values. Three men showed an average variation of not more than 1 per cent. in two separate scorings. Mr. L. M. McLean, of Innisfail, had a variation of but .3 per cent.; others again showed a difference of all the way up to 5 per cent. Incidentally it may be mentioned that some of the buttermakers participating in the scoring contest had the privilege of scoring the butter which they themselves had brought to the convention for an exhibit, thus getting an opportunity to express on the score card their unbiased opinion of the quality of their own butter in comparison with other samples. This little lesson no doubt made an impression on many of the makers and demonstrated to them the need of practice and close observation by the person who aims to be a good judge of dairy products. Without being a good judge of these the dairyman is greatly handicapped.

No prizes were awarded in the butter scoring contest, the lesson itself was its own reward.

The Butter Exhibit.

The butter exhibits were judged by C. Marker, H. S. Pearson and Geo. W. Scott, and the prizes were awarded as follows, viz.:

L. M. McLean, Innisfail, Richardson Challenge Trophy and 1st prize; D. Morkeberg, Markerville, 2nd prize; I. Gustafson, Leduc, 3rd prize.

I wish here to record my appreciation and to thank Messrs. C. Richardson & Co., of St. Mary's, Ontario, represented by Messrs. Ellis & Grogan, Calgary, for the beautiful challenge trophy which they presented to the convention for competition. The trophy will become the property of the person who wins it twice in open competition. I also have to thank Mr. D. G. Campbell, Calgary, for his handsome donation to the prize list.

The Minister of Agriculture kindly presented the prizes to the successful contestants.

Stock Judging School.

In the afternoon of the second day of the convention Messrs. H. A. Craig, J. G. Clark and M. D. Geddes, conducted a stock judging school which was greatly appreciated by the visiting dairymen. Dairy stock was furnished for the occasion by local breeders and the Jersey, Ayrshire and Holstein breeds were represented.

Each of the principal speakers outlined the type of the various breeds of dairy cattle and afterwards supplied score cards to those in the audience who wished to try their hand at "scoring" the animals. These score cards were then submitted to the experts for criticism.

At the conclusion of the stock judging school the deputy minister favoured the convention with an address, a summary of which is as follows:

Mr. Harcourt said he was glad to be present and have the opportunity to speak with so many representative men, all the creamery districts in the province being represented. These men in convention were laying a foundation of a work of great benefit to the people of the province. He was glad to see the interest taken in the stock judging school and in the butter scoring class. This was good experience and meant better work next year. Each worker here would become on his return home a missionary, moulding public opinion and stirring up the patrons to their share of the work. More intelligent patrons meant better cows and better care of milk; this with the butter makers meant true co-operation and great success for the creameries.

The speaker next said that in looking over the country one would find that every district that had progressed or forged to the front had for its foundation stock raising. Business men will tell you that the most ready money was always to be found in the stock districts. The central portion of Alberta was specially adapted by nature for dairying and he hoped to soon hear Central and Northern Alberta famed for its dairying.

Beef and Dairy Cattle.

There were two lines of work to be followed in cattle raising—beef and dairy. So far the beef strains had flourished almost generally in the province. In order to attain the highest success in dairying it would be necessary to introduce dairy cattle. They are special purpose cattle and if given proper treatment would give the best returns. It might not be possible to change all at once, still if we wanted a real dairy herd we must replace the beef bulls with dairy bred ones. "The simplest way for anyone to build up

a herd," he said, "was to pick out the best dairy cows by testing them and keeping track of what they were doing." Testing was very important. He strongly advised every farmer to weigh the milk night and morning given by every cow. In this way it could be seen at once if each cow was keeping up her flow. Stick-to-it-iveness was a most important point in a good dairy cow. Butter-makers and cheese makers should try to get all their patrons to test their cows and better herds would soon result. Having ascertained which were the best cows, the calves from these only should be raised. It is too slow a piece of work to raise all the calves until they can be tested out as milkers. Cull the calves.

As to Feeding.

The speaker next dealt with the feed question. He said: "Feed is one-half of breed." No pure breed of stock has been developed without extra feed. Because an animal is pure bred she should be able to handle large quantities of food in an economical way. There are not many cows in Alberta that are fed to their capacity. People are trying to keep too many cows. Fewer cows fed to their limit would produce larger returns. You must consider that cows are machines to convert raw food into milk. Get cows of good constitution. They will have the largest capacity and it is economy in the long run to keep and feed such cows. By taking up the cow test at the Chicago World's Fair he showed that the best cow made a profit of \$72 for the testing period, and the poorest a profit of only \$24, the cost of feed for the two animals was practically the same. It is therefore necessary to look out to get cows that are economical producers.

In connection with feeding, stabling was very important. Care and attention should be given every dairy cow. He likened a dairy cow to a racehorse. Each cow is tuned up to do a great deal of work and must be looked after. Comfortable stables were economy.

The question of breed was a big leverage in developing a herd. If, as had been said, the bull was half the herd, then we ought to get the best that money, time and experience can buy. Farmers as a rule did not pay enough for their bulls. They thought that when they had put into a bull the price of a cow or two they had done all that was necessary. It is not so. Good bulls were most important in building up a herd. There was no quicker way of developing in a herd the superior qualities of a breed than by the use of a first class sire.

A great many people talk Shorthorns, but Mr. Harcourt said that although some great dairy herds in England were Shorthorns yet it was doubtful if you could register these cattle as Shorthorns in Canada. Moreover Shorthorns would never build up a dairy herd. They eventually run to beef.

The speaker would advise the directors of a creamery or a few farmers in each district to club together and get in a good dairy bull. "Swing from beef to dairy as soon as possible," he said.

In closing Mr. Harcourt said much depended on the men at the convention from all over the province to carry back the knowledge gained and to stir up the people to better things. These meetings were an excellent means of educating the people. He hoped to see more of them. More meetings meant greater progress and greater success for the great dairy industry. This section of the

country would some day become known all over the world as a great dairy country.

The Discussion.

In the discussion following this speech, Mr. Craig said the question of breed was a wide one, but we ought to use pure bred sires. Many of the cows here were lacking in constitution. In this connection he would like to say that at the Dominion Fair in Calgary to be held June 29th, they expected to have a fine cattle show of 150 pure bred cattle -Ayrshires, Holsteins, Jerseys and some Guernseys. Mr. Craig hoped that a great many of these would stay in Alberta.

A. H. Trimble, an old timer of this district and a most successful dairyman being asked to give his experience in Alberta, said that he came to Red Deer seventeen years ago, and he had stayed with the cow ever since, except for four years when he sold out most of his herd and went to town to live. But he soon got back to the farm, started again with a few head and now had the foundation for a good dairy herd of Ayrshires. It paid well. His cows this winter were worth \$100 a month to him. He fed green feed, oats and beardless barley. In the matter of feed he said he sowed oats on summer fallow, in July, and when the grass dried up in the fall he turned his cattle into the oats. This kept up the flow of milk. Mr. Trimble said in his experience he found winter dairying ahead of summer dairying, he got better prices. It was an important thing to feed regularly and to milk regularly.

The question was brought up concerning bulls running at large in the country. Mr. Harcourt said that in any township on a majority vote the pound law could be enforced. The people should see that this law be enforced for the protection of their herds.

Mr. G. W. Scott addressed the convention on the subject of sampling and testing milk and cream for cheese factories and creameries. He referred at some length to certain experimental work which had been conducted by the dairy branch during the winter. The conclusions drawn from that work show the necessity of a careful and thorough mixing of the milk and cream before taking the sample. In making up composite samples each addition must bear a definite ratio to the quantity of milk or cream sampled. This is especially important in the case of cream which varies considerably in butter fat content from time to time, and for this reason also the sample taken for the Babcock test should be determined by weight (18 grammes) and not by measurement.

A spirited discussion followed Mr. Scott's address.

The subject of care and handling of steam boilers and engines was introduced by Mr. H. S. Pearson, who emphasized the necessity of watchfulness and ordinary business economy on the part of the operators.

In closing the convention the writer reviewed the work which had been accomplished and expressed the hope that good results would accrue; that the subjects which had been so fully discussed might now be better understood and the knowledge gained applied in everyday practice in our endeavours to promote the dairy industry of our province.

Votes of thanks were passed to the Department for instituting the creameries, to the press for the kindly interest shown, to the people of Red Deer for their hospitality and to the C.P.R. for special rates obtained by those who attended the convention.

VII.—EXHIBITION WORK.

During the past year the writer and the dairy instructors attended, by special request, a number of the agricultural fairs held in the province and placed the awards in the dairy classes. The butter score card used on these occasions was a feature appreciated by the exhibitors and opportunities were frequently given them to test the relative merits and values of the exhibits.

While on this subject, I am pleased to report that several of the agricultural societies now conduct dairy competitions, *i.e.*, milk and butter fat tests, at their annual fairs. If the results of these competitions be rightly interpreted by the people directly interested this feature is a valuable one and should receive every reasonable encouragement at the hands of our dairy farmers as well as from the fair boards.

A working dairy was fitted up in the dairy pavilion at the Dominion Exhibition, Calgary, and practical demonstrations were given each day in home dairy work, butter making and testing of dairy products.

VIII.—FACTORY INSTRUCTION.

The dairy instructors, Mr. H. S. Pearson and Mr. Geo. W. Scott, devoted the major portion of their time during the operating season to visiting the creameries and cheese factories and conferring with the makers. On April 15th a letter was sent to the proprietors of each of the privately owned and operated creameries, reading as follows:

“DEAR SIR,—

“*Services of Dairy Instructors.*

“It is the purpose of our Department to provide all the creameries in the province with the services of our dairy instructors. In order that this service may be made as useful and valuable to you as possible, I would ask you to kindly fill in one of the enclosed forms and mail to this office now, and afterwards whenever any changes are made in your cream delivery, churning and testing days. This information will enable us to time the visits of the instructors to the best advantage.

“I desire, further, to say that we shall always be glad to give any information and assistance in our power by way of correspondence, upon subjects relating to dairying in general.

“You are, therefore, invited to take advantage of such services as we are able to render towards the development of the dairy industry of the province.

“Yours faithfully,

“C. MARKER,

“*Dairy Commissioner.*”

Generally, the visits and services of the instructors were well received and apparently appreciated by the public.

IX.—PUBLIC MEETINGS.

During the winter and early spring of 1908 the members of the dairy staff, in company with Mr. J. G. Clark, attended and addressed farmers' institutes and special dairy meetings at the following points, *viz.*:

Airdrie.
Atkins School.
Trochu Valley.
Harmattan.
Markerville.
Lakeview.

Crossfield..
Didsbury
Mayton.
Bowden.
Evarts.
Grassy Lake.

Carstairs.
Sunny Slope.
Olds.
Innisfail.
Burnt Lake.
Penhold.

Red Deer.	Blackfalds.	Lacombe.
Bentley.	Rimbey.	Stettler.
Content.	Lamerton.	Earlville.
Valley City.	Ponoka.	Ferry Bank.
Sedgewick.	Hastings Coulee.	Spring Lake..
Daysland.	Bawlf.	Camrose.
Rosenroll.	Lewisville.	Wetaskiwin.
Leduc.	Conjuring Creek.	Millet.
Bonnie Glen.	Stony Plain.	Viking.
Pincher Creek.	Stavely.	Nanton.
Cayley.	High River.	Okotoks.
Gleichen.	Langdon.	Grahamsten.
Three Hill Valley.	Hill End.	Nisbet School.
Big Bend.	Stirling.	Lethbridge.

X.—CORRESPONDENCE.

For the twelve months ending December 31st, 1908, 4,237 communications were received at this office and 9,236 dispatched, in addition to a large number of circulars and leaflet bulletins issued to creamery patrons and cream haulers giving hints as to care and handling of cream for creameries, market conditions, dairy herd records, etc.

XI. —ACKNOWLEDGMENTS.

Again I deem it my pleasant privilege to acknowledge the quality of services so faithfully and cheerfully rendered by the staff of this branch, both in the field and in the office. Every member has given to it a real personal interest and whatever measure of success has been achieved is due to a hearty co-operation among the workers.

To the public press, also, is due great credit for the publicity given to matters which are of special value to dairy and allied interests.

C. MARKER,
Dairy Commissioner.

3.—REPORT OF CHIEF INSPECTOR OF WEEDS.

SIR,—I have the honour to submit herewith my first annual report as chief inspector of weeds. When I received the appointment on March 1st, 1908, there were 92 weed districts in the province, with 85 inspectors. At the beginning of the inspection season the number of districts was increased to 99 and the number of inspectors to 97. As one inspector covered two districts, all the districts excepting one were inspected. At this point it was impossible to get a suitable man willing to undertake the work. The districts range in size from four townships in the south in the vicinity of Raymond, Magrath, and Cardston, where the farms are small and the land well settled, to thirty townships in the more sparsely settled localities.

During the winter of 1908 the weed inspectors' books were examined carefully and the names and addresses of all the owners of farms infested with stinkweed, Canada thistle, tumbling mustard and Russian thistle were obtained. Early in the spring before cultivation commenced, special circulars dealing with each of the above mentioned weeds were prepared, in which the characteristics of the plants were described and methods of cultivation for their eradication suggested. These circulars were sent to the land owners having these weeds on their farms, and were accompanied by a covering letter in which the provisions of The Noxious Weeds Act were pointed out. It was stated that unless a special effort was made to eradicate these pests, the provisions of the Act would be enforced. The inspectors reported that the circulars were very effective. In many cases when they had arrived at a farm that was previously in a bad condition, they found that the majority of the weeds had been destroyed.

While in attendance at the institute meetings during the winter months, it was learned that many farmers and others were ignorant of the provisions of the Act. In order to enlighten them on this subject, a large poster containing the principal sections of the Act was printed, and posted in the post offices, hotels, school houses, livery stables and other public places, by the inspectors. The plea of ignorance of the provisions of the Act can therefore be no longer entertained.

About ten of the inspectors in the districts where stinkweed was most prevalent worked two or three days in May and June in order to see that the stinkweed was destroyed before the seeds matured.

The regular inspection began on June 29th and was continued until about the end of July. In some of the districts, principally those infested with tumbling mustard, Canada thistle, and Russian thistle, the inspectors worked a few days in August, September and October. The shortest time any of the inspectors worked was five days, and the longest twenty-five days. The total number of days worked was 1,495, and the average a little over fifteen days. During this time about 21,000 farms were inspected, 15,610 of which were reported as clean and 5,390 as being more or less infested with noxious weeds. During the inspection 1,442 notices to destroy weeds were issued by the inspectors.

The prosecutions conducted in the season of 1907 had an excellent effect in persuading negligent farmers to clean up their weeds. The lands on which there was so much difficulty in 1907, and where a few prosecutions took place were all summer fallowed or cleaned up in some other manner. Owing to the good effects of these prosecutions, it was decided to enforce the Act in cases where the farmers were very negligent. Following this course, therefore, ten complaints were laid against land owners for failing to destroy their weeds after being warned several times to do so. Nine of these were laid against farmers and one against a real estate firm. Six of the land owners were fined, the fines ranging from \$1.00 to \$20.00. In the remainder of the cases the defendant was warned that if he did not destroy his weeds at once, a heavy fine would be imposed the next time he appeared. It must not be understood that the weed inspector's sole business is to prosecute. He is given instructions that the campaign must be to a large extent educational. It is only where his instructions are totally disregarded and the Act set at defiance that its provisions are enforced.

During the year \$149.00 was expended in cleaning up weeds on the public roads and government fireguards, \$50.00 on abandoned homesteads and \$750.00 on private land. \$343.50 of the amount expended on private property has been recovered. It is probable that within a short time the whole of this amount will be refunded to the Department.

The inspectors report that a great improvement is noticed since they first started their work. One thing to be regretted is that in some new districts weeds are almost as numerous as on the land that has been under cultivation for some time. The reason for this is that when the land was first cultivated, seed grain containing a large amount of foul weed seeds was sown. In a large majority of cases the new settlers do not appear to realize the importance of sowing clean seed. Some of them are without a fanning mill and do not take the trouble to clean their grain. This is probably due as much to carelessness as to lack of knowledge, and is a difficulty with which the Department will always have to contend. The Act does not prevent the selling of grain containing weed seeds for feed, and it has been found that a number of farmers purchase grain sold as feed and immediately sow it. I would suggest that the Act be amended in this respect in such a way as to prevent the selling of grain for feed that contained, say, fifteen seeds of any noxious weed or weeds per thousand of such seed. Too much care cannot be taken to see that clean grain is sown. Another very effective way of disseminating weeds is by feeding stock, especially horses, grain containing foul seeds. These pass through the digestive organs of the animals without being injured, and the seeds germinate when brought under the proper conditions. The inspectors report that many fields have become infested with weeds, especially ball mustard, by feeding the horses oats containing foul seeds while preparing the ground for the crop.

Railroads are often given credit for bringing new weeds into a locality. During the past season the writer noticed that in the dryer parts of the province, fifty or sixty miles away from cultivated lands, almost all kinds of noxious weeds were found on the railway right of way, so that they are still offenders in this respect. The straw used in the stock cars usually contains weed seeds which find their way to the ground where the stock has been unloaded, and thus we find the stock yards very badly infested with all kinds of

noxious weeds. Numerous weed seeds also fall from the empty box cars as they rattle over the track, which accounts for the large variety of weeds along the roadbed. The superintendents of the railroad always give instructions to their roadmasters to have these weeds destroyed, but the section men are very careless in carrying out these instructions. They devote their entire energies to keeping the roadbed clean, while the weeds at a distance of ten feet from the track are left untouched. Inspectors reported that the railroads were kept cleaner during the season of 1908 than ever before.

Irrigation ditches are also responsible to a large extent for the spread of weeds, where they exist. The seeds float down the ditches when the water is high. They are then distributed over the ground, or find lodgement in the sides of the banks, where they germinate. Last year, I am pleased to report, the largest irrigation company in the province seeded down the banks of most of their ditches with white clover and grass seeds in accordance with clause 3 of section 4 of the Act. In such places the weed seeds will have no chance to grow as the grass will smother them out, especially if it gets a good start.

The elevators have been visited from time to time, and I am glad to be able to report that they have not offended seriously against the provisions of the Act.

It has been found that some threshers are very careless and do not take the necessary trouble to clean their machines before moving from one farm to another, and are therefore very effective agents in the distribution of weeds. For the past two years the inspectors have not been allowed sufficient time to inspect the work of the threshers; however, I trust that they will be able to attend to this matter another season.

Some complaints have reached the Department regarding the spread of weeds in the towns and cities. On account of the very short time allotted the inspectors, they had no opportunity of visiting the towns. In The Municipal Ordinance, provision is made for the passing of a by-law compelling the destruction of noxious weeds. Early in the season the department directed the attention of each town council to the advisability of passing such a by-law. Out of the twenty-four towns written to, the majority signified their intention of passing a weed by-law, but I am only aware of five that put it in force. These were Lacombe, Pincher Creek, Taber, Fort Saskatchewan and Vermilion. New weeds are often first noticed in towns, the seeds having been brought there in straw and other material used for packing crockery, glass, etc. So far the perennial sow thistle is almost entirely confined to towns. If they were destroyed before they reached the surrounding country, much future labour and expense would be avoided. The townspeople, in protection of the farmers to whom they are responsible for their existence, should see that all weeds are destroyed. The destruction of the weeds on the roads and vacant lots will also give the town a more attractive appearance. In view of these facts, I would suggest that The Municipal Ordinance be amended making it compulsory for municipalities to compel the destruction of weeds within their limits, and to appoint and pay a weed inspector to see that the provisions of the by-law were carried out. I would also suggest that the city charters be amended in the same way. Inspectors appointed in this way would receive all the information they required from the Department.

The veined dock (*Rumex Venosus*), a perennial plant and a native of Alberta, found growing principally in light soil in the

central and southern parts of the province, caused considerable damage to crops during the past season. When it gets firmly established in a grain crop, it will completely smother out the grain. It also spreads very rapidly on land that is improperly summer fallowed. Deep plowing about the end of June is the most effective way to eradicate this weed.

The Russian thistle has spread rapidly in the south-eastern part of the province. Last year the rainfall was lighter than usual, and the climate was admirably suited to the growth of this weed. As the vitality of the seeds of this plant is not strong, it can be eradicated by preventing plants from seeding for two years. The farmers in the locality referred to are making a united effort, and it is hoped that they will be successful in conquering this pest.

As the Act now stands, only weed inspectors appointed by the Minister of Agriculture can lay a complaint against a land owner for neglect in cleaning up his weeds. Owing to the fact that the weed inspectors are employed only for a short time it is not always possible for them to visit the locality where they are most needed without great expense both to themselves and to the Department. I believe that if the Act were amended so that any owner or occupant of land could take action against a delinquent land owner for neglect in this respect, many more weeds would be destroyed.

In herd districts and localities where there are no fences, weeds are often distributed, especially after the grain is threshed, by cattle that come to the stacks to feed. The Act allows ten days to elapse before the screenings, which are largely composed of weed seeds, need be destroyed, at the end of which time the screenings are nearly all eaten up and no more damage can be done. I would therefore suggest that this clause be changed from ten to two days. I think two days is sufficient time to allow a land owner to destroy his screenings when he has been permitted to preserve the grain.

In some parts of the west, weeds, especially those with hairy leaves, have been kept under control by spraying with chemicals, principally sulphate of iron. I would advise the purchase of a spraying machine in order that experiments may be conducted in Alberta. I believe that spraying would be an excellent adjunct to good cultivation, as a means of eradicating the ball mustard so prevalent here.

During the past winter institute addresses were given on noxious weeds in conjunction with the grain judging schools, by Mr. A. Mitchell, of Indian Head, formerly chief inspector of weeds, and the writer. Some forty places were visited and over three thousand farmers listened to the addresses.

In conclusion I wish to thank the weed inspectors for their hearty co-operation and assistance during the past season in fighting against this, the worst enemy with which the farmers have to contend.

T. B. R. HENDERSON,
Chief Inspector of Weeds.

4.—REPORT OF THE CHIEF GAME AND FIRE GUARDIAN.

SIR.—I have the honour to submit herewith my report for the year 1908 in matters pertaining to the protection of game and the prevention of prairie fires.

1.—PROTECTION OF GAME.

In making my third annual report it is pleasing to state that a continued improvement is noticeable in the manner in which the provisions of The Game Act are being observed. Sportsmen and others who are interested in the protection of our big game, game birds and fur-bearing animals, are becoming more interested each year in their protection. They realize that, without adequate protection, in a few years many species will become so scarce, if not extinct, that it would take many years of absolute protection or propagation to sufficiently renew their numbers as to allow of any shooting whatsoever.

GENERAL NOTES ON GAME.

Ducks, geese and other migratory birds reached the southern part of the province as early as the second week in March, the central part during the last week of March and the first week of April, and the northern part the first and second weeks of April. It is reported that a small number of ducks wintered in the south-western part of the province.

It is considered a mistake to allow the shooting of wild geese in the spring of the year as in too many cases the hunter returns home with ducks instead of geese. It would be almost as sensible to allow the hunting of partridge in the spring; the result would be that the hunter would often secure prairie chicken as these birds frequent the same territory just as ducks and geese are found on the same waters. In many districts ducks were found to be more plentiful than for some years past. This was due no doubt to there being less shooting in the spring of the year than formerly. The cutting out of spring shooting at the first session of the Legislature is showing its effect in the increased number of ducks nesting and raising their broods in all parts of the province with very little disturbance from the pot hunter.

All persons throughout the province who take any interest in the protection and preservation of game consider that the season for ducks opens too early. The other provinces of the Dominion have adopted the first day of September as the opening day of the season, thereby lessening the slaughter of what is generally termed the flapper. It is a well known fact that a large number of young ducks are unable to fly on the twenty-third day of August, the day on which the season opens at present, consequently each and every day added to the close season means a reduction to a greater or less extent in the slaughter which takes place on the opening day of the season.

Many of the cities and towns declare a civic holiday on the twenty-third of August of each year in order that the so-called sportsman may get out and destroy the innocent flapper which in too

many cases is allowed to rot where it drops. Occasionally parties are heard to make the remark that they do not believe in protecting ducks as we only raise them for the people in the south to shoot and that no effort is made to protect them there. To such a person I would say that in many of the southern States these birds are given better protection than is given them by the Province of Alberta. (See schedule on page 116). As well might he say that he does not believe in protecting prairie chicken as in the event of a brood being raised on his land he would shoot them all to prevent his neighbour getting any.

If the people of Canada do not protect the ducks and other migratory birds which return each year for the purpose of breeding, it will be only a short time until many species will become extinct. The sportsman will then turn his attention to the song and insectivorous birds which if reduced in numbers will rob the farmer of the protection given him by these birds from the ravages of worms and insects which annually take their toll from farm crops.

Prairie Chicken.—The close season of one year has proven to be a wise move and could have been continued for one or two years longer with advantage to these popular and useful birds. Their numbers are, however, increasing and it is recognized that these birds are more plentiful along the eastern line of the province than in any other portion. It is noticeable, however, that they are gradually working westward and at the close of the open season were found in fair quantities as far west as range 15. In other parts of the province their numbers are greatly reduced as compared to former years. It is recognized that very stringent measures are required in order that the extermination of these birds may be prevented. The shortening of the open season and the clause prohibiting the buying and selling of their flesh is proving very beneficial, inasmuch as it discourages the market hunter, and the season being during October only will result in the sportsmen finding the birds fully developed and consequently strong on the wing.

Partridge.—My remarks respecting the scarcity of prairie chicken will also apply to partridge. These birds are also increasing in numbers and with favourable breeding seasons for a few years will undoubtedly continue to become more plentiful, providing of course that they are given proper protection.

Hungarian Partridge.—The effort of the Alberta Fish and Game Protective Association to introduce and propagate Hungarian partridge is meeting with a very satisfactory measure of success and is deserving of the support of all sportsmen and others interested in the preservation of game. Parties who are acquainted with the habits of these birds claim that they are equally as beneficial to the agriculturist as quail, their food consisting almost entirely of worms, insects and weed seeds. They are much larger than the quail, swifter on the wing, and much stronger and hardier. Every encouragement should be given this association in its efforts to preserve the game and fish with which the province is so bountifully blessed.

Fur-bearing Animals.—These have become very scarce judging from reports received from dealers. The catch has amounted to only about one-third or one-half of what it was during the year ending the thirty-first day of May, 1907. It is recognized that the season for muskrat opens at least two months too early, the skins taken during November and December only realizing about one-third the price of those taken in March or April.

Otter should be protected for several years as they have been exceedingly scarce for some time and fewer skins are being received each year.

Table II shows the number of skins of fur-bearing animals marketed during the years ending May 31st, 1907 and 1908, as reported by dealers.

Buffalo.—From the report of Major Jarvis of the R.N.W.M.P. and Ernest Thompson-Seton it is evident that the buffalo in the northern part of the province are in danger of extinction by poachers. If it is the wish of the people to preserve these animals from such a fate very strenuous measures must be adopted for their protection.

Elk.—The protection afforded elk by the close season of three years will no doubt be the means of increasing the numbers of these noble animals. Although it has been reported that these animals are being killed in the eastern part of the province sufficient evidence has not been forthcoming to date to warrant a prosecution.

In July last evidence as to the killing of an elk during November of 1907 was secured which resulted in a prosecution and conviction. The offender, failing to pay his fine, served four months at the police barracks at Fort Saskatchewan. This party according to statements of his own and those of his neighbours is anything but a law abiding citizen as applied to game laws.

Moose.—Moose are reasonably plentiful in districts. I have reason to believe that their numbers are increasing, as during the past two seasons there has not been sufficient snow for tracking and hunters report plenty of signs.

Deer.—Deer are certainly more plentiful than they have been for some years and are steadily increasing in numbers. The weather conditions during the open season have been the means of protecting the deer as well as the moose. Many sportsmen are asking that the open season be extended to the fifteenth day of December in order than an opportunity may be given them to hunt on the snow, which usually arrives before this date, thus increasing their chances of making a good bag. I do not think this would be advisable as very often these animals would have yarded before this date especially during seasons when the snowfall is heavy, consequently a slaughter would be the result. I think that no better open season could be selected than during the month of November.

Antelope.—It is claimed that the antelope were just as plentiful during the past season as during the season of 1907. This would mean that there is very little change in the number of these animals in the province. In the event of good breeding seasons it might be expected that they would hold their present numbers providing there was no increase in the number killed. As this cannot be regulated to a certainty on account of the annual increase in the number of hunters I would suggest that an effort be made to provide for an increase in certain districts.

I therefore recommend that, owing to the fact that the Canadian Pacific Railway Co. have fenced their main line thereby preventing all the antelope to the north thereof from migrating to the south, a close season be declared for a number of years for these animals in that part of the province lying to the north of the main line of the Canadian Pacific Railway. This would have the effect of confining hunters to the south of the railway, the result of which would be an increase in their numbers in that portion of the province lying to the north of the railway. If it was thought advisable the pro-

hibition could be made to apply north of the Crows Nest Branch instead of the main line, still leaving a large stretch of territory for hunters to hunt over.

Mountain Sheep and Mountain Goat.—As the close season on mountain sheep and mountain goat expires on the first day of October, 1909, it will therefore be necessary to either further extend the protection which these animals have had during the past two years or provide for an open season. I would suggest that an open season be provided for, to extend from September 1st to October 15th. The reason for making the season so early is due to the fact that it is not safe in the mountains after the middle of October owing to storms, etc. Consequently tourists or hunting parties would have time after their hunt in the mountains to get out on the plains after antelope before the season for these animals closed, which occurs on the first of November.

It is a well known fact that the tourist hunter spends liberal sums of money on hunting trips, consequently if his pleasure in this respect can be prolonged it will mean more money left in the province, thereby being of indirect benefit to the whole population, providing the supply of game is not seriously depleted thereby.

The first principles of game protection is to prevent a reduction in the numbers of big game and game birds or better still to provide for a slight increase each year, it being much easier to reduce the supply than to increase it. This then will give any person who wishes to enjoy the shooting of game birds and big game an opportunity of gratifying his desire by beginning on ducks on the twenty-third of August, sheep and goat on the first of September, prairie chicken and partridge on the first of October, also antelope during this month, and deer, moose and caribou during November.

REVENUE FROM GAME AND FUR-BEARING ANIMALS.

Big game, game birds and fur-bearing animals should be considered as a valuable asset of the province, and not as many look upon it, a source of pleasure only to those who have the time and inclination to hunt for pleasure or profit. It is estimated that not over ten per cent. of the population can be considered as hunters of big game and game birds, why then should the other 90 per cent. of the people be expected to pay 90 per cent. of the cost of protection in order that 10 per cent. of the people may enjoy the whole benefit. The same conditions exist in respect to fur-bearing animals, only to a greater extent, as the percentage of trappers and hunters of fur-bearing animals to the total population is very much smaller, in all probability being less than 5 per cent. of the whole. This then leaves a very small percentage of the people enjoying all the profit to be obtained by trapping or trafficking in the pelts of our fur-bearing animals. The province therefore should be receiving a large revenue from game and fur-bearing animals.

My suggestion as to the securing of revenue from this source would be as follows:

1. The continuation of the present branding fees as provided for in section 11 of the Act.

2. Cut out the present license of \$2.50, sections 15 and 19, and substitute therefor a license of \$1.25 to apply to all residents wishing to hunt big game, game birds or fur-bearing animals, excepting of course the farmer while hunting over land occupied by him as tenant or owner.

3. Continue the game dealer's license, section 16.
4. Continue the nonresident licenses, section 17.
5. Cut out section 18 as the privileges granted under this section are being abused.
6. Impose a heavy license on all transient fur buyers and peddlers.
7. Place a very small tax on every skin or pelt of game or fur-producing animals.
8. Continue the fees for export permits but make provisions that a permit to export a branded or mounted head may be issued upon the payment of one dollar fee therefor.
9. License taxidermists thereby protecting the competent workman and discouraging the amateur, as many good heads and other specimens are being wasted each year. This would be the means of inducing parties who have a liking for the work to take up the study of it under a competent man.
10. Continue the present guides' licenses and camp helpers' licenses.

11. Continue the charge for permits to collectors, section 27.

It may be claimed by some that this would mean another tax on the people. This would not be correct, as any person who did not hunt would not require a license; also any person who did not buy pelts of wild animals would not have to pay any tax thereon, it being entirely optional with any person as to whether he hunted or dealt in skins or not.

I venture to say that in a very few years the total revenue derived from the sources mentioned would exceed the expectations of every person who has not given the matter much thought.

In order that some idea may be formed as to the amount of revenue which would in all probability be secured under licenses, etc., suggested, I would refer you to the table on page 102 of the Department report for 1907.

TABLE I.—A RETURN SHOWING THE NUMBER AND VALUE OF THE FUR CATCH.

	FROM SMALL DEALERS			FROM WHOLESALE DEALERS & EXPORTERS	
	NO. OF SKINS	AVERAGE VALUE	TOTAL VALUE	NO. OF SKINS	TOTAL VALUE
Badger	360	\$ 1 85	\$ 304 35	252	
Bear, Black	117	7 35	861 00	2,173	
Bear, Brown	24	7.08	170 00	300	
Bear, Grizzly	10	13 50	135 00	40	
Bear, Cub	9	5 00	45 00	70	
Beaver				1,514	
Coyote	11,537	1 51	17,462 00	6,404	
Fisher	34	5 29	180 00	242	
Fox, Cross	86	6.15	528 80	910	
Fox, Red	254	3 38	860 50	1,638	
Fox, Silver	12	87 91	1,055 00	242	
Lynx	1,834	6 00	11,009 50	7,778	
Marten	377	7 58	2,859 00	9,397	
Otter	12	14 33	172 00	520	
Mink	637	3 36	2,144 90	2,685	
Muskrat	104,811	22	23,190 01	157,493	
Squirrel	390	23	90 25		
Skunk	268	51	138 50	786	
Weasel	1,984	27	1,351 85	7,523	
Wolverine	7	4 78	33 50	642	
Wolf	23	6 10	140 50	237	
Deer	16	2.00	32 00		
Moose	1	10 00	10 00	24	
Caribou				17	
Muskox				1	
			\$62,773 66		\$305,710 12

Grand total \$368,483. 78

Section 31 of The Game Act provides as follows:

"Every company, firm or person engaged in the fur trade who buys, sells or trades any furs or skins taken from any of the animals protected by this Act shall make a return within the first fifteen days of June in each year to the Minister of Agriculture specifying the number of each variety of pelts or skins so bought, sold or bartered for in the province."

The returns received under this section have not been as complete as they should have been, but sufficient information has been received to form some idea as to the annual catch of fur-bearing animals. It is generally known that the catch for the year ending the 31st day of May, 1908, has been very much less than for previous years. It is claimed by persons who have bartered and traded in pelts for many seasons that for a series of years the fur-bearing animals are very plentiful. These plentiful years are then followed by a number of lean years during which the catch is comparatively small.

For purposes of comparison I submit herewith Table II covering the years ending the 31st of May, 1907 and 1908.

TABLE II.—SHOWING ANNUAL FUR CATCH.

	FROM SMALL DEALERS		FROM WHOLESALE DEALERS & EXPORTERS	
	1907	1908	1907	1908
Badger.....	595	360	310	252
Bear, Black....	285	117	1,660	2,173
Bear, Brown....	83	24	342	300
Bear, Grizzly..	28	10	127	40
Bear, Cub	44	9	100	70
Beaver.....	750	.....	2,542	1,514
Coyote.....	11,502	11,537	5,262	6,404
Fisher.....	44	34	351	242
Fox, Cross....	352	86	1,674	910
Fox, Red.....	1,111	254	4,662	1,638
Fox, Silver....	216	12	411	242
Lynx.....	12,511	1,834	42,669	7,778
Marten.....	11,273	377	12,224	9,397
Otter.....	472	12	423	520
Mink.....	8,053	637	7,912	2,685
Muskrat.....	159,661	104,811	119,833	157,493
Squirrel.....	1	390	.....	.....
Skunk.....	4,189	268	3,914	786
Weasel.....	3,256	4,984	5,491	7,523
Wolverine.....	451	7	446	642
Wolf.....	65	23	922	237
Deer.....	357	16	30	.....
Moose.....	17	1	.....	24
Elk.....	4	.....	.....	.....
Caribou.....	.....	.....	.....	17
Muskox.....	.....	.....	.....	1

BRANDING GAME HEADS.

The provisions of section 11 providing for the branding of game heads is proving more satisfactory each year, and as the public become more accustomed to its workings few, if any, will care to return to the old order of things. One of the greatest advantages under this provision is to the purchaser of the head, who feels satisfied, after purchasing a head which bears the brand of the Department, that everything is in order and that the provisions of The Game Act have been complied with.

A large number of heads were branded during 1907 which were acquired by the owners previous to the adoption of the present Act. In fact almost all heads which were intended for sale were branded before the close of 1907. Consequently those branded during the past year were almost invariably heads obtained during the open seasons of 1907 and 1908.

For the sake of comparison the following will give the desired information:

	1907	1908
Mountain Sheep	216	2
Mountain Goat	62	.....
Elk	41	3
Moose	39	29
Caribou	16	6
Deer	142	15
Antelope	95	5

In November, 1908, as in November, 1907, there was little or no tracking snow for deer hunters, the result of which is that the number of animals killed is very much less than would otherwise

have been the case, and naturally enough fewer persons purchased licenses. The following licenses were issued during the years 1907 and 1908:

	1907	1908
Residents' big game licenses.....	446	529
General game licenses	4	7
Trappers' (nonresident)	6	4
Guests' shooting permits	25	24
Guides' licenses.....	6	3
Camp helpers' licenses	1	1
Game dealers' licenses	12	23
Permits to export.....	15	17
Permits to collect.....	6	6

With respect to game dealers' licenses I may say that the number issued during 1908 almost doubled the number issued in 1907 with a proportionate increase in the amount of game handled. If this continues it will be necessary to increase the fee for this license as it is desirable in the interests of the protection of game that hunting for market be discouraged. It is considered in older settled countries that the market hunter has done more to destroy game than almost any other agency.

Subsection 2 of section 19 of The Game Act provides that:

"Each resident to whom a big game license shall have been issued in any year shall, immediately after the close of the open season for the killing or taking of the animals mentioned in section 4 of this Act, return the license issued to him to the Department of Agriculture accompanied by an affidavit sworn before a justice of the peace, or a commissioner for taking affidavits, or a game guardian, showing the number of animals killed or taken by him during the period mentioned in such license."

The returns received under this section show that the following big game has been killed by residents during the years 1907 and 1908:

	1907	1908
Deer	59	125
Antelope	49	45
Moose	14	37

CONVICTIONS.

I believe that an effort should be made to educate the people as to the advantages to be derived from protecting the game. It is recognized of course that there are those who know better but who will at every opportunity either shoot game during the close season or fail to observe the provision of the game laws in some other manner. The only cure for such as these is a very severe penalty.

The present maximum penalty of fifty dollars for other than special cases should be increased to two hundred dollars, especially for unlawfully killing big game, as well as imprisonment at the option of the magistrates.

Convictions for infractions of The Game Act were secured as follows:

<i>Offence</i>	<i>No. of Convictions.</i>
For hunting on Sunday	12
For hunting in close season	11
Buying and selling unbranded heads.	8
Hunting without a license...	7
Selling without a license...	7
Miscellaneous	4

Total of fines imposed \$337.50

MONEYS COLLECTED.

The amount of money collected under The Game Act during 1908 is shown as follows:

Branding.	\$ 240 00
Permits to collect.	50 00
Permits to export.	92.00
Game dealers' licenses.	230.00
Camp helpers' licenses.	2.50
Guides' licenses.	15.00
Trappers' licenses.	40.00
General game licenses.	175 00
Residents' big game licenses.	1,322 50
Fines imposed.	337.50
Total.	\$2,504.50

INDIANS.

The greatest problem in connection with the protection of our big game is to find means to restrict the Stoney Indians, of Morley. Their reserve being located in a stretch of country which is fit for nothing but the raising of horses and cattle, and being in the centre of a big game country, many of the members of this tribe are consequently hunting at all seasons of the year instead of endeavouring to earn a living by other means. They do not all live on the reserve as it is known that several families have located in the mountains in a stretch of country frequented by sheep and goat. When leaving the reserve they take very little, if any, provisions with them. It is therefore necessary that they procure game in order to sustain life.

This Indian question is a sore one with many persons in the south-western part of the province, many complaints being continually received. One party writes as follows:

"The Stoney Indians are both fishing and hunting out of season. They are cutting holes in the ice and catching trout by the bushel. Two years ago I saw them kill four deer out of season and this year the mountains were full of Indians long before the season was open.

"I was with the D. L. Survey party a few days and on our way we could hear the Indians shooting and hear their dogs barking running deer. There are about fifty in one bunch and they are cleaning the country out. In their camps you could find any amount of sheep hair and deer long before the season was open. The ranchers are missing a good many cattle and they all think the Indians are killing them and I think there is no doubt about it. The other day I accidentally ran onto an Indian and as soon as I came in sight he raised a red flag and began to signal with it. It was a signal to other Indians.

"They killed a steer for Mr. ——. He sent for the police and on their arrival they thought it no use to make any arrests for there were so many Indians. There is not enough game left for the Indians to live on and they must surely live on something. Why can't they be kept on their reserve like other Indians. Why is it they are allowed to hunt big game with dogs. I am safe in saying this outfit has not less than 30 dogs. It is a shame the way they are allowed to do.

"Not long ago three big greasy bucks came to our place and no one being at home but my youngest sister, 13 years old, they demanded something to eat. They nearly frightened her to death. It is time that the Government was doing something with them, not wait until they kill a few people. Now if there is any doubt in regard to their doings send an officer here to me and I will gladly convince him that every word that I have said is true and I will go through the country and show him in this vicinity."

The question is often asked are the Indians subject to the provisions of The Game Act? The Game Act states that no person shall hunt, trap, take, shoot at, wound or kill, etc. Under the

prohibitions practically every section starts this way. I do not think that anyone will contend for one minute but that an Indian is a person, consequently the Act is intended to apply to all persons meaning Indians as well as white men and halfbreeds.

It is considered by many that the treaty entered into by the Dominion Government grants to the Stoney Indians the right to hunt for all time with no restrictions whatsoever as applied to unoccupied lands. For the information of those who are interested in this matter I take the liberty of quoting a section from Treaty Seven dealing with this particular question. Treaty Seven was signed by the contracting parties on the twenty-second day of September in the year of our Lord one thousand eight hundred and seventy-seven. The following are the tribes which agreed to the provisions of the treaty and authorized their chiefs and councillors to sign the same after it had been read and explained by the interpreter: Blackfeet, Blood, Peigan, Sarcee, Stoney and others.

After the clause agreeing to cede, release, surrender, and yield up to the Government of Canada certain lands as described in the treaty, the commissioners agreed as follows:

"And Her Majesty the Queen hereby agrees with her said Indians that they shall have right to pursue their vocations of hunting throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the Government of the country, acting under the authority of Her Majesty."

The Stoney chiefs who signed the treaty are as follows: Masqwa-ah-Sid (or Bearpaw), Cheneke (or John), Kichipwot (or Jacob).

Consequently the provisions of The Game Act do apply to the Stoney Indians and to all other Indians.

GAME GUARDIANS.

The present system whereby game guardians are expected to give their services gratis in the interests of the protection of game is not very satisfactory to the guardians. These gentlemen are, however, a great deterrent, in their district, to the party who wishes to disobey the provisions of The Game Act. This Department also receives considerable assistance and information from them, and in consideration of this fact I think it would be only right to yearly forward them a periodical or book as is done in the case of crop correspondents.

On the 31st day of December there were 275 game guardians being an increase over 1907 of 24. They have been arranged by constituencies as shown by their post office address as follows:

GAME GUARDIANS BY CONSTITUENCIES.

Banff.

Johnstone, Geo. W	Cochrane.
Reid, Geo. A.	Cochrane.
Meikeljon, R. W	Cochrane.
Goddard, G. E	Cochrane.
Beveredge, S. E	Springbank.
Fraser, J. A. W	Jumping Pond.
Skinner, D. W	Lochend.
Bell, F. L	Lochend.
McDougall, D	Morley.
Fraser, A. C	Springbank.
Hutchinson, W	Big Hill Creek, Cochrane.
Baptie, Adam M	Exshaw.
Bell, Ernest	Lochend.
Grayson, Chas.	Cochrane.

Calgary.

Wheeler, A. O.	Calgary.
Grahame, G. M.	Calgary.
Robinson, R. G.	Calgary.
Brodie, Neil.	Calgary.

Cardston.

Caldwell, A. A.	Caldwell.
Sloan, Jno	Kimball.

Edmonton.

Wilcox, C	Edmonton.
Hayes, J. O'Neil	Edmonton.
Kennedy, Jno	Edmonton.
Mercer, J. B	Edmonton.
Robertson, W. S	Edmonton.
Tough, Jas.	Edmonton.
Cooper, W. H.	Edmonton.
Bulmer, Geo	Edmonton.
Carpenter, J. V. E	Edmonton.
McInnes, Jno	Edmonton.
Blackburn, B. F	Edmonton.
Rudd, H. E	Edmonton.
Fielders, Jno	Edmonton.
Turnbull, Hugo	Edmonton.

Gleichen.

Davey, W. C	Airdrie.
McLeod, Geo	Crossfield.
Oswald, J. C	Crossfield.
Martin, Dan., Jr	Rosebud Creek.
Edie, Peter	Brooks Station.
Bunny, B. H	Gleichen.
Norton-Taylor, S	Gleichen.
Brereton, David	Red Deer, Gleichen.
Wilson, J. A.	Red Deer, Gleichen.
McKay, D. J	Crossfield.
Brown, W. W	Strathmore.

High River.

Grant, Jno. A	Lineham.
Buckler, Eric W	Lineham.
Dunlop, Wm. A	High River.
Sexsmith, J. L.	High River.
Austin, Frank C	De Winton.
Francis, H. P. E	Pekisko.
Gervais, Romain	Hicksburg.
Estcourt, W. H	Pekisko.

Innisfail.

Archer, F. W	Innisfail.
Campbell, D. W.	Innisfail.
Robinson, Edmund	Stauffer.
Jensen, Jas	Knee Hill Valley.
Hunford, B	Markerville.
Scott, W. L.	Markerville.
Milligan, R	Pine Lake.
Thomson, C	Red Lodge.
Thomson, Evan	Red Lodge.
Chauny, Count L. M. de	Trochu Valley.
Arnold, Sam	Bowden.
Robinson, W. H	Little Red Deer, Innisfail.
Mustard, H. M	Markerville.
Starken, Swan	Garrington.

Lacombe.

McPherson, W. B., J. P.	Bentley.
Pinnell, Chas.	Alix.
Parlby, Walter.	Alix.
Godfrey, Sidney.	Lacombe.
Whitworth, C. H.	Bentley.
Waghorn, W.	Blackfalds.
Capron, Jos.	Blackfalds.
Kendall, J. S.	Red Willow.
Critchely, H. D.	Red Willow.
Grose, J. C.	Ersline.
Triplett, J. E.	Forshee.
Breton, T. A.	Valley City.
Stephens, Fred.	Lacombe.
Webb, Jas.	Liberal.
Barrett, E. W.	Stettler.
Wilson, G. S.	Stettler.
Brady, C. J.	Flagstaff.
Boyd, A. J.	Lacombe.
Smith, Wm.	Lockhart.
Carter, J. R.	Morningside.
de Soucy, Pierre.	Talbot.
Larose, Geo.	Stettler.
Carritt, J. C.	Bentley.
Gray, W. B., J. P.	Stettler.
Kent, Jas. P.	Lacombe.
Myers, J. C.	Foreman.
Brace, Henry.	Notre Dame de Savoy.
Craig, A. B.	Wittenburg.
Stickle, Norman.	Brownfield.

Leduc.

Clifford, F.	Conjuring Creek.
Peterson, Nels.	Millet.
Green, F. B.	Bonnie Glen.
Alpaugh, E.	Conjuring Creek.
Young, R. C.	Millet.
Pithouse, H. G.	New Sarepta.
Bush, A. R.	Leduc.
Sanders, Nels.	Ohrnville.
Blades, W. F.	Leduc.
Erwin, Jonah	Leduc.
O'Mara, E.	O'Mara.
Blackwood, Chas.	Telfordville.
Hudson, Wm.	Buford.
Robson, T. S.	Killam.
Brissard, Jas.	Beaumont.
Newton, Haydon	Wetaskiwin.

Lethbridge.

Case, H	Lethbridge.
Withers, H. P	Lethbridge.

Macleod.

Lyndon, Wm.	Lyndon.
Roberts, P. J.	Macleod.
Bagley, Travis.	Meadow Creek.
Pearson, G.	Standoff.
Stanford, T. B.	Stavely.

Medicine Hat.

Briggs, Chas.	Graburn.
Rutherford, Wm.	Strathmartin.
Murray, Geo.	Seven Persons.
Robinson, Jas.	Josephsburg.
Bray, J. H. G.	Medicine Hat.

Peace River.

McDonald, Duncan.....	Dunvegan.
Gaudet, John P.	Peace River Crossing.
English, W. S. O.....	Spirit River.
Monkman, Alex.	Grand Prairie.
Jones, Robt.	Fort Vermilion.
Lambert, Wm. John....	Fort Vermilion.
Biggs, Wm.	Fort McMurray.

Pincher Creek.

Shannon, Wesley .	Twin Butte.
Hillier, Ernest.	Twin Butte.
Hughson, A.	Lundbrek.
Miller, C. B.	Cowley.
Wilson, T. G.	Livingstone.
Porter, Geo. E.	Livingstone.
Garrault, L.	Pincher Creek.
Jackson, G. A.	Blairmore.
Brown, Jno.	Pincher Creek.
Clarkson, R. B.	Pincher Creek.
Riviere, H.	Pincher Creek.
Willock, D. F. W.	Pincher Creek.
Brown, J. G.	Waterton Mill.
Swinney, J. L. T.	Yarrow.

Ponoka.

Stewart, P. R.	Earlville.
Wilcher, J. G.	Lewisville.
Wells, W. E.	Whitebrush.
Fleming, Louis.	Ponoka.
Fraser, A. B.	Ponoka.
Shafft, W. M.	Ponoka.
Craig, J. J.	Bluff Centre.
Everts, Jas.	Wittenburg.

Red Deer.

Gray, E.	Hillsdown.
Mellor, C. P.	Evarts.
Morton-Bell, R.	Trenville.
Lensman, Gus.	Mayville.
Schnoor, John.	Red Deer.
Cottingham, W. H.	Red Deer.
Bleay, Richard.	Red Deer.
Fisher, F. B.	Red Deer.
Wallace, Jos.	Red Deer.
Harrington, W. W.	Ewing.

Rosebud.

McIntyre, Wm.	Didsbury.
Grahame, Wm.	Dog Pound.
Byron, Thos.	Eagle Hill, Olds.
Distman, C.	Trochu Valley.
McLeod, Jno.	Sunny Slope.
Thomson, E. Vernon.	Dog Pound.
Scott, Robt.	Carstairs.
Russell, Jas.	Rosebud.

St. Albert.

Edgson, Jno. A.	Edison.
Mennier, T.	Lac la Nonne via St. Albert
Clark, Thos. A.	Pembina.
Verstraete, Camille.	Villeneuve.
Kelly, Patrick.	St. Albert.
Noyes, Wallace.	St. Albert.
Fitzgerald, Wm.	St. Albert.
Lucas, Arthur.	Clyde.
Cosens, F.	Sion.

Stony Plain.

Hagen, S. C.	Winterburn.
Hoffman, M. L.	Mewassin.
McDonald, Dan	Mewassin.
Bennett, Jno	Mewassin.
Pegrum, Frank	Wabamun.
White, Henry	Wabamun.
Shields, W. K.	Wabamun.
Butchart, B.	Inga.
Groat, A. E.	Spruce Grove.
Sutherland, G.	Spruce Grove.
Bristow, W.	Spruce Grove.
DeBord, J. W.	Stony Plain.
Musselman, D.	Stony Plain.
Deans, Sam.	Mewassin.
Kuhl, Henry	Worley.
Maloney, J. V.	Lac Ste. Anne.

Sturgeon.

Gibbons, W. R.	Astleyville.
Mason, Wm.	Bon Accord.
Florence, A. F.	Bon Accord.
Trotter, J. R.	Sturgeonville.
Milligan, Jno	New Lunnon.
Russell, Jno	Athabasca Landing.
Tratt, O. T.	Lamoureux.
McLaughlin, C.	Namao.
June, Robt.	Namao.
Bailey, R.	Namao.
Whiteley, W. E.	Landing Rd., Edmonton.
Henry, F. J.	Pine Creek.

Strathcona.

Ellett, F. S.	Ellerslie.
Inkster, Jas.	Strathcona.
Currie, Chas.	Strathcona.
Grummett, D.	Cooking Lake.
Stephens, W. H.	Strathcona.
Miller, M. L.	Strathcona.
McLeod, A. G.	Strathcona.
Whyte, Basil	Strathcona.
Smith, J. E.	Strathcona.
Wilkinson, W. F.	Clover Bar.
Lackey, Hamilton	East Clover Bar.

Vermilion.

Reid, Elmer	Harland.
Gully, Lacy	Vegreville.
Trimble, John	Vegreville.
Coxford, A. W.	Vegreville.
Stonehocker, J.	Lavoy.
Armitage, W. H.	Mannville.
Morris, H. G.	Mannville.
McLean, Archie	Mannville.
West, F. V.	Vermilion.
Graham, J.	Vermilion.
Loades, G. A.	Viking.
Moody, A. R.	Beaver Lake.
McKenzie, E. H.	Warwick.
Lynn, Percy	Strathcona.
McFarlane, D.	Warwick.
McDougall, J. A.	Gilpin.
Roberge, C. C.	Logan.
Hallberg, E.	Ross Creek.
Hunt, A. W.	Tofield.
Lavoy, Jos.	Lavoy.
Kennepp, L. H.	Viking.
Stewart, J. A.	Beaver Lake.

Gladena, Augustus	Tofield.
Spilstead, Chas	Spilstead.
Norn, Jos. A	Logan.
Mohler, Wm.	Round Hill.
Heathcote, Jos.	Kitscoty.
Cookson, Geo., Jr.	Tofield.
Philbrick, D. L.	Mannville.
Booher, Noah.	Mannville.
Armstrong, Harry.	Vermilion.
Matusch, L. B	Hardisty.
Avery, Walter.	Vermilion.
Mickelburgh, A.	Spilstead.

Victoria.

Watson, Andrew.	Chipman.
Kreps, John	Fort Saskatchewan.
Simmons, E	Fort Saskatchewan.
Shandro, A. S.	Shandro.
Calvert, S. W.	Chipman.
Hunter, Jas	Innisfree.
Vanarsdalen, N	Vermilion Valley.
Libbey, J. J	Fort Saskatchewan.

Wetaskiwin.

Wilson, O. T	Camrose.
Logan, R. W	Camrose.
Fleming, A. W	Heather Brae.
Price, Jas	Heather Brae.
McDonald, J. S	Sedgewick.
Hawkins, R. T	Wetaskiwin.
Cherrington, R. R	Wetaskiwin.
Dickson, A. R	Wetaskiwin.
Barnard, A. H.	Daysland.
Wood, A. G	Westrose.
Swanson, C. H	Wetaskiwin.
Burnham, A. A	Prague.
Dempsey, J. G	Heather Brae.
Ward, M. A	Sedgewick.

To those who are interested in the protection of game the close seasons adopted in other places will no doubt be of interest. The following tables will give the desired information for the year 1908.

TABLE III.—CLOSE SEASON FOR GAME BIRDS IN VARIOUS STATES AND PROVINCES.

STATES	PARTRIDGE AND GROUSE	PTARMIGAN	DUCK	GOOSE AND SWAN
Maine	Dec. 1—Sept. 15.	.....	Jan. 1—Sept. 1.	.....
New Hampshire	Dec. 1—Oct. 1	.....	Feb. 1—Oct. 1.	.....
Vermont	Dec. 1—Sept. 15	.....	Jan. 1—Sept. 1.	.....
Massachusetts..	Nov. 1—Oct. 1.	.....	Mar. 1—Sept. 1.	Jan. 1—Sept. 1.
Rhode Island	Jan. 1—Nov. 1.	.....	April 1—Aug. 15	.....
Connecticut	Dec. 1—Oct. 1.	.....	Jan. 1—Sept. 1.	Jan. 1—Sept. 1.
New York.	Dec. 1—Oct. 1.	.....	Jan. 1—Sept. 16.	Jan. 1—Sept. 16.
Pennsylvania.	Dec. 1—Oct. 1.	.....	April 10—Sept. 10	April 10—Sept. 1.
Delaware.	Jan. 1—Nov. 15	.....	April 16—Oct. 1	April 16—Oct. 1.
Maryland	Dec. 25—Nov. 1	.....	April 10—Nov. 1	April 10—Nov. 1.
Virginia.....	Feb. 1—Nov. 1.	.....	May 1—Oct. 15	May 1—Oct. 15.
West Virginia	Dec. 15—Oct. 18	.....	April 1—Oct. 1.	April 1—Oct. 1.
Kentucky	Jan. 1—Nov. 15	.....	April 1—Aug. 15	April 1—Aug. 15.
Ohio	To Nov. 15, 1913	.....	Jan. 1—Sept. 1.	Jan. 1—Sept. 1.
Michigan	Dec. 1—Oct. 15	.....	Jan. 2—Sept. 1.	Jan. 2—Sept. 1.
Indiana	Jan. 1—Nov. 10.	.....	April 1—Sept. 1.	April 1—Sept. 1.
Illinois ..	To July 1, 1911	.....	April 16—Sept. 1	April 16—Sept. 1.
Wisconsin	Oct. 15—Oct. 1	.....	Jan. 1—Sept. 1.	April 1—Sept. 1.
Minnesota	Dec. 1—Oct. 1.	.....	Dec. 1—Sept. 1.	Dec. 1—Sept. 1.
Iowa	Dec. 15—Nov. 1.	.....	Sept. 15—Sept. 1	April 15—Sept. 1.
Missouri	To Nov. 15, 1910	.....	May 1—Sept. 15	May 1—Sept. 15.
Kansas	Oct. 15—Sept. 15	.....	April 15—Sept. 1	April 15—Sept. 1.
Nebraska.	Dec. 1—Sept. 1.	.....	April 16—Sept. 1.	April 16—Sept. 1.
South Dakota	Jan. 1—Sept. 1	.....	May 1—Sept. 1.	May 1—Sept. 1.
North Dakota.	Oct. 15—Sept. 1	.....	May 1—Sept. 1.	May 1—Sept. 1.
Montana	Dec. 1—Sept. 1.	.....	Dec. 1—Sept. 1.	Dec. 1—Sept. 1.
Wyoming	Sept. 15—Aug. 1	.....	May 1—Sept. 1.	May 1—Sept. 1.
Colorado	Oct. 2—Aug. 20.	.....	April 16—Sept. 10	April 16—Sept. 10.
Florida. .	To Dec. 1, 1912	.....	April 1—Oct. 1	Mar. 1—Nov. 1.
Alabama	.....	.....	Mar. 1—Nov. 1	March 1—Sept. 1.
Mississippi	.....	.....	Mar. 1—Sept. 1	April 15—Oct. 1.
Tennessee	Mar. 1—Nov. 1	.....	April 15—Oct. 1.	Mar. 1—Oct. 1.
Louisiana.	.....	.....	Mar. 1—Oct. 1	.....
Oklahoma	All the year	.....	.....	.....

New Mexico	Jan. 1—Oct. 1.	All the year	.....	.....
Arizona	Mar. 1—Oct. 15	.....	.....	.....
California	To Sept. 1, 1909.	.....	.....	.....
Nevada	Mar. 1—Sept. 15	.....	.....	.....
Utah	Dec. 1—Aug. 1.	.....	.....	.....
Idaho	Dec. 1—Aug. 15	.....	.....	.....
Washington	Jan. 1—Sept. 1	Jan. 1—Sept. 1	.....	Jan. 1—Oct. 1.
Oregon	Dec. 1—Oct. 1.	.....	.....	Jan. 1—Sept. 15.
Alaska	Mar. 2—Sept. 1	Feb. 1—Sept. 1	.....	Mar. 1—Sept. 1.
PROVINCES				
British Columbia	Jan. 1—Sept. 1.	Jan. 1—Sept. 1.	.....	.....
Yukon	Mar. 15—Sept. 1	Mar. 15—Sept. 1	.....	June 1—Sept. 1.
Alberta	Nov. 1—Sept. 15	Nov. 1—Sept. 15.	.....	.....
Saskatchewan	Dec. 1—Sept. 15	Dec. 1—Sept. 15.	.....	Jan. 1—Sept. 1.
Manitoba	Nov. 1—Oct. 15	.....	.....	.....
Ontario	Dec. 16—Sept. 15	.....	.....	May 1—Sept. 15.
Quebec	Dec. 15—Sept. 1	Feb. 1—Nov. 1.	.....	.....
New Brunswick	Dec. 1—Sept. 15	.....	.....	Dec. 12—Sept. 1.
Nova Scotia	Nov. 1—Oct. 1	Mar. 1—Sept. 1	.....	.....
Prince Edward Island	Dec. 1—Oct. 1.	.....	.....	May 10—Sept. 15.
Newfoundland	Dec. 15—Oct. 1	Dec. 15—Oct. 1.	.....	Dec. 15—Oct. 1.

TABLE IV. CLOSE SEASON FOR BIG GAME IN VARIOUS STATES AND PROVINCES.

STATES	DEER	ELK	MOOSE	CARIBOU	ANTELOPE	SHEEP AND GOAT
Maine	Dec. 16—Oct. 1.		Dec. 1—Oct. 15.	To Oct. 15, 1911.		
New Hampshire	Dec. 1—Oct. 1.	All the year	All the year	All the year		
Vermont	Except Oct. 26-31		All the year	All the year		
Massachusetts	To Nov. 1, 1910					
Rhode Island	All the year					
Connecticut	To June 1, 1911					
New York	Nov. 1—Sept. 16	All the year	All the year	All the year	All the year	
New Jersey	To Nov. 10, 1909					
Pennsylvania	Dec. 1—Nov. 15					
Virginia	Jan. 1—Sept. 1.					
West Virginia	Dec. 16—Oct. 15.					
Kentucky	Mar. 1—Sept. 1.					
Michigan	Dec. 1—Nov. 10.	To June 16, 1913	To June 16, 1913	To June 16, 1913.		
Indiana	All the year					
Illinois	To April 28, 1913..					
Wisconsin	Dec. 1—Nov. 11.					
Minnesota	Dec. 1—Nov. 10.	All the year	Dec. 1—Nov. 10.	All the year		
Iowa	All the year	All the year				
Missouri	Jan. 1—Nov. 1					
Nebraska	Nov. 16—Aug. 15	All the year			Nov. 16—Aug. 15	
South Dakota	Dec. 1—Nov. 1.	Dec. 1—Nov. 1.			To Jan. 1, 1911.	Dec. 1—Nov. 1.
North Dakota	Dec. 1—Nov. 10.	All the year			To Jan. 1, 1911.	All the year.
Montana	Dec. 15—Sept. 1.	Dec. 1—Sept. 1.	All the year	All the year	Dec. 1—Sept. 1.	Dec. 1—Sept. 1.
Wyoming	Nov. 15—Sept. 15	Nov. 15—Sept. 15	To Sept. 15, 1912..		Nov. 15—Sept. 15	Nov. 15—Sept. 15
Colorado	Oct. 21—Oct. 1.	To Nov. 1, 1911			To Oct. 15, 1911..	To Oct. 15, 1911.
North Carolina	Feb. 1—Oct. 1.					
South Carolina	Jan. 1—Sept. 1					
Georgia	Jan. 1—Sept. 1					
Florida	Feb. 1—Nov. 1.					
Alabama	Jan. 1—Nov. 1					
Mississippi	Mar. 1—Nov. 15					
Tennessee	To Oct. 1, 1911.					
Arkansas	Feb. 1—Sept. 1.					
Texas	Jan. 1—Nov. 1				To July 1, 1912..	To July 1, 1912.

Oklahoma	All the year				All the year	
New Mexico	Sept. 1—Oct. 15				To Mar. 13, 1910	All the year.
Arizona	Dec. 1—Sept. 15				To Mar. 1, 1911	All the year.
California	Oct. 1—July 15				All the year	All the year.
Nevada	Nov. 15—Sept. 15				Nov. 15—Sept. 15	All the year.
Utah	Nov. 1—Oct. 1				To Mar. 23, 1911	To Mar. 23, 1911.
Idaho	Dec. 31—Sept. 15				All the year	Dec. 31—Sept. 15.
Washington	Dec. 15—Sept. 15				Nov. 1—Sept. 15	Nov. 1—Sept. 15.
Oregon	Nov. 1—July 15				Jan. 1—Aug. 20	Jan. 1—Aug. 20.
Alaska	Feb. 2—April 1					
PROVINCES						
British Columbia	Dec. 15—Sept. 1				Jan. 1—Sept. 1	Dec. 15—Sept. 1.
Yukon	Mar. 1—Sept. 1				Mar. 1—Sept. 1	Mar. 1—Sept. 1.
Alberta	Dec. 1—Nov. 1				Dec. 1—Nov. 1	To Oct. 1, 1909.
Saskatchewan	Dec. 15—Dec. 1				Nov. 1—Oct. 1	
Manitoba	Dec. 15—Dec. 1				Nov. 15—Oct. 1	
Ontario	Dec. 15—Dec. 1				Dec. 15—Dec. 1	
Quebec	Nov. 16—Nov. 1				Nov. 16—Oct. 16	
New Brunswick	Jan. 1—Sept. 1				Feb. 1—Sept. 1	
Nova Scotia	Dec. 1—Sept. 15				Dec. 1—Sept. 15	
Newfoundland	To Oct. 1, 1912.				To Oct. 1, 1912.	
					Feb. 1—Oct. 21.	

II.—PRAIRIE FIRES.

I have the honour to submit herewith the second annual report relating to the enforcement of The Prairie Fires Ordinance. I regret to say that there were more convictions under this Ordinance than during 1907.

I cannot think that settlers take the necessary precautions as provided for in the Ordinance. During the months of April and May fires were quite as frequent as during the spring of 1906 when almost the whole country was burnt over destroying property valued at thousands of dollars, as well as consuming the nests of birds and destroying the young ones and driving the old birds out of the districts so burned over. Why people will continue to set out fire and allow it to run, not knowing where it will stop, is unexplainable.

It is a well recognized fact that fire running over the land year after year destroys its fertility especially if the soil be dry, as in many cases the fire works into the soil and destroys the humus and vegetable matter, often continuing to burn for weeks and even months. The yearly destruction of timber and young trees is something enormous and all sacrificed by settlers desirous of burning over hay meadows, stubble fields or to destroy brush, which in the majority of cases could have been let stand until all danger of fire running was past.

If the necessary fireguard as provided for in the Ordinance was constructed by persons wishing to set out fire I think that very few fires would run at large, as in practically every conviction for allowing fire to run at large, it has been discovered that the cause of the fire getting away has been due to there being no fireguard or that the guard was so poorly constructed as to be of little use in checking a fire.

True the burning assists in cleaning the land but it also destroys timber if not kept within bounds. On the prairie in many districts the fires running year after year have entirely consumed the top soil and left only the subsoil which in other districts lies below the vegetable mold. The only cure for such rank carelessness is the imposition of heavier penalties. In too many cases it is more profitable to pay the fine which is usually imposed than to construct the necessary fireguard. I would therefore suggest that justices of the peace impose much heavier penalties, thereby discouraging the above practice.

The railway companies are also guilty of setting fires by sparks from their engines, which run over the country causing great damage. This is being remedied to a great extent each year by the construction of fireguards and safety appliances on engines as required under Order 3245 passed by the Board of Railway Commissioners. Several convictions were secured during the year under this order but the cases are being carried to a higher court.

CONVICTIONS.

	<i>No. of Convictions Reported</i>	<i>Total Fines</i>	<i>Average Fine</i>
1907.....	33	\$741.00	\$22.45
1908.	105	1,570.00	14.95

This is not taking into consideration suspended sentences or where the costs of the court were the only penalties imposed.

The above shows an increase in the number of convictions but a reduction in the average penalty of \$7.50.

On the 31st day of December, 1907, there were 157 fire guardians and at present 166, who have been specially appointed to enforce the provisions of The Prairie Fires Ordinance. As they are expected to give their services gratis in the interests of their district I would suggest that in view of the public spiritedness shown by them they be given each year the choice of a book or periodical as is being done in the case of crop correspondents.

The following is a list of the fire guardians in the province arranged by constituencies:

FIRE GUARDIANS BY CONSTITUENCIES.

Banff.

Brewster, William...	Banff.
Elliott, Walter B.	Cochrane.
Fraser, J. A. W.	Jumping Pond.
Fay, Herbert	Cochrane.
Goddard, G. E.	Mitford.
McPhee, M.	Beaver Dam, Cochrane.
McCorkell, John F.	Morley.
Reid, Geo. A.	Cochrane.
Mickle, Chas. W.	Spring Bank.

Cardston.

Ashe, Percy G.	Coutts.
Shaw, V. S.	Cardston.
McCarty, C.	Spring Coulee.

Calgary.

Carter, D.	Calgary.
Campbell, Dan. W.	Calgary.
Johnston, George.	Calgary.
Moss, Sidney H.	Calgary.
Merrick, George.	Calgary.
Moss, Walter.	Calgary.
McIntosh, J. G.	Calgary.
McIntyre, R. W.	Calgary.
Wheeler, A. C.	Calgary.
Wooley-Dodd, A. G.	Calgary.
Woodlams, W. D.	Calgary.
Grahame, G. M.	Calgary.

Edmonton.

Mitchell, Archibald.	Edmonotn.
Tough, Jas.	Edmonton.
Hayes, J. O'Neil	Edmonton.
Turnbull, Hugo.	Edmonton.

Gleichen.

Clark, John. Jr.	Crowfoot.
Colquhoun, O. L.	Gleichen.
Hardwick, Douglas.	Snake Valley, Gleichen.
Martin, Daniel, Sr.	Gleichen.
McKinnon, L.	Langdon.
Stephenson, Johnston.	Airdrie.
Strange, Alex.	Gleichen.
Scott, Harry.	Gleichen.
Sutherland, Jas. A.	Crossfield.
Urquhart, William.	Crossfield.
Coxford, W. H.	Airdrie.
Hicks, Thomas.	Lathom.
Maloney, A. S.	Dunbow.
Nixon, R. J.	Crossfield.
Brown, W. W.	Strathmore.

High River.

Clare, George H. T.	Pekisko.
Holmes, W. E.	High River.
Thorn, W. B.	High River.
Bannister, A. E.	Davisburg.
Gervais, Romain	Hicksburg.
Narrish, J. D.	Nantou.

Innisfail.

Alford, R. P.	Pine Lake.
Bitton, William Shirley.	Innisfail.
Collins, Harry F.	Pine Lake.
Duncan, George.	Innisfail.
Ellis, Geo. W.	Innisfail.
Gaetz, Fred W.	Pine Lake.
Milligan, Robt.	Innisfail.
Redpath, George	Pine Lake.
Wyndham, W. T.	Pine Lake.
Chauny, Count L. M. de.	Innisfail.
Wynn, Robert	Knee Hill Valley.
Wood, Chas. T.	Red Lodge.
Mustard, H. M.	Markerville.

Lucombe.

Burns, Ed	Lamerton.
Burgess, Joseph	Lamerton.
Capron, Jos.	Blackfalds.
Grose, W. E.	Valley City.
Hilstad, Carl	Bentley.
Paisley, S. W.	Canyon.
Pinnel, Chas.	Alix.
Patterson, George W.	Red Willow.
Richards, A. T.	Lucombe.
Tees, James.	Valley City.
Walters, James L.	Lucombe.
Whiteside, F. H.	Lamerton.
Tees, W. E.	Tees.
Hickling, Horace.	Alix.
Peters, Wm. W.	Notre Dame de Savoy.

Leduc.

Blocker, William.	Leduc.
Bradner, Henry.	Leduc.
Clifford, Frank	Conjuring Creek.
Fetherstone, S. W.	Leduc.
Hodgson, Francis J.	Beaumont.
Johnston, S. H.	Beaumont.
Mortimer, Chas.	Leduc.
McEwen, J.	Conjuring Creek.
Sanders, Nels A.	Buford.

Red Deer.

Fleming, George.	Penhold.
Gaetz, Fred.	Red Deer.
Hoskin, Thomas.	Red Deer.
Martin, Angus	Red Deer.
McKuchney, Mr.	Red Deer.
Reinholt, J. F.	Red Deer.
Thompson, W. A.	Red Deer.
Wilson, John	Evarts.
Fisk, Robert E.	Hilldown.
Lensman, Gus.	Mayville.
Morton-Bell, R.	Trenville.
Moore, Wm.	Ewing.
Fisher, F. B.	Red Deer.

Rosebud.

Distman, C	Olds.
Kembery, Raymond A.	Olds.
Lewis, Edwin.....	Olds.
Shantz, J. B	Didsbury.
Bell, E.	Bradborne.
Grahame, William	Bradborne.
Evans, Arthur	Three Hills.
Macleod, John	Sunny Slope.

Strathcona.

Ellett, Chas. C.	Strathcona.
McAllister, George.....	Strathcona.
Townsend, Ed.....	Strathcona.

Sturgeon.

Gibbons, W. R.....	Astleyville.
Thompson, Lewis.....	Pakan.

Stony Plain.

Steffler, Ed	Spruce Grove.
Knapp, H. H.	Winterburn.
Muselman, D	Onaway.
Mills, Charles	Inga.
White, H.	Wabamun.

St. Albert.

Verstract, Camille.....	Villeneuve.
Hughson, W. S	Manawan, via Independ'ce.
Hall, Thomas.....	Manawan, via Independ'ce.

Lethbridge.

Depew, Warren	Raymond.
Dixon, James	Lethbridge.
Duff, Duncan.....	Grassy Lake.
Fuller, James Dixon.....	Lethbridge.
Furman, John	Grassy Lake.
Kenny, E.	Lethbridge.
Kennedy, Edward	Lethbridge.
Link, Adam	Lethbridge.
Nash, Alfred C	Lethbridge.
Otott, C. H	Lethbridge.
Slawson, D. K	Grassy Lake.
Steed, Frank O	Stirling.
Cox, E.....	Grassy Lake.

Medicine Hat.

Borthwick, William.....	Medicine Hat.
Brightland, E. W	Talbot.
Eastmead, W.	Talbot.
Hargrave, W. H	Walsh.
Markwick, George	Medicine Hat.
McLaughlin, J. D	Medicine Hat.
Savage, J. G	Dorothy.
Ellwood, Jas.....	Gopher Head.

Macleod.

Cochrane, William F.....	Macleod.
Gardner, W. E	Macleod.
Maryfield, Fred T	Macleod.
Lyndon, W. A	Lyndon.

Pincher Creek.

Connelly, Alf. T.	Pincher Creek.
Smith, H. J.	Pincher Creek.
Godsall, F. W.	Cowley.
Busneau, James B.	Yarrow.
Eddy, W. T.	Cowley.

Ponoka.

Johnston, Charles.	Edberg.
Tyner, R. E.	Ferry Bank, Ponoka.
Barber, John	Spring Lake.
Bowie, George.	Ferry Point.

Victoria.

Bevington, Charles E.	Fort Saskatchewan.
Belcher, Henry.	Wostok.
Borwick, John.	Whitford.
Dzivenka, Joseph.	Wostok.
Halkow, John.	Wostok.
Simmons, W. L.	Fort Saskatchewan.
McCaul, David.	Star.
Richardson, Silas	Whitford.
Roberts, Ben.	Kitscoty.

Vermilion.

Weir, A. M.	Mannville.
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Wetaskiwin.

Ravensburg, O. C.	Wetaskiwin.
Ropper, Ernest.	Bittern Lake.

BENJ. LAWTON,
Chief Game and Fire Guardian.

5.—REPORT OF POULTRY SUPERINTENDENT.

SIR,—In submitting a report of the work of the poultry branch for the year I would do so under three headings, viz.: office work, educational work, fattening stations and the breeding plant.

OFFICE WORK.

The existence of a poultry branch having become more generally known there has been a large increase in the number of letters received from all parts of the province during the year asking for advice on general lines as follows: The most suitable breeds for general and commercial purposes; remedies for diseases and sick birds; submitting plans of poultry houses for criticism; enquiring for eggs for hatching and for breeding stock.

A large number of enquiries have been received from poultry raisers asking for markets and also from dealers asking for a supply of poultry and eggs. In all cases I have tried as far as possible to place these parties in direct communication with each other.

Attracted by the encouragement and assistance given by the Government to the industry numerous enquiries have been received from the other provinces and many of the States of the Union to the south of us with regard to locating poultry farms within the province. There has been considerable correspondence regarding matters pertaining to all departments of poultry work from British Columbia, Saskatchewan and Manitoba due to the fact that Alberta is the only western province giving special attention to this industry.

There still continues to be a large demand for the poultry bulletin issued by the Department last year, many copies of which have been mailed to other provinces, also to other governments and colleges for special purposes. The demand for the bulletin has been so great that the supply will shortly be exhausted.

EDUCATIONAL WORK.

In connection with the educational work institute meetings were held at Edmonton, Fort Saskatchewan, Lamont, Chipman, Mundare, Lloydminster, Kitscoty, Islay, Vermilion, Mannville, Ranfurly, Innisfree, Viking, Macleod, Lethbridge, Medicine Hat, Stirling, Raymond, Magrath, Cardston, Cowley, Pincher Creek, Granum, Claresholm, Stavely, Nanton, Cayley, Okotoks, Langdon, Strathcona and other places throughout the province during the year. At these meetings the best methods of housing, natural and artificial incubation, rearing, feeding and fattening were dealt with and questions answered and discussed.

At the Dominion Exhibition, Calgary, in July, a special educational exhibit was made by this branch consisting of various kinds of brooders, houses, colony and other coops, interior fixtures for poultry houses including several styles of trap nests. An exhibition of the fleshing of poultry by means of the fattening crate was made and a demonstration of the proper method of killing, plucking and preparing the birds for market was given each day.

As a general result of the educational work there has been a much greater interest taken in poultry keeping and dealers advise

me that there is considerable improvement in the quality and manner in which poultry products are prepared for the market. From the correspondence on file I am led to believe that a large number of poultry raisers are following the methods advocated in the poultry bulletin and otherwise.

During the year I attended as many agricultural fairs as time would allow judging the poultry exhibited and giving exhibitors and others instruction in standard requirements of poultry and in selecting birds for the show room. Having attended many of the fairs during the past three years I am pleased to state that at the fairs of 1908 there was a much greater interest shown in poultry classes than formerly, a larger number of entries and a decided improvement in the standard requirements.

Taking advantage of the assistance offered in The Agricultural Societies Ordinance two of the poultry associations, that of Edmonton and Lethbridge, have held poultry shows during the year, both of which were well attended and much interest shown in developing high class poultry.

As a result of this increased interest the members of the various poultry associations met at Calgary during the Dominion Exhibition and organized a Provincial Poultry Association. While there has not been sufficient time since organization to show any material result of this association there is no doubt that it will do much to advance the poultry interests of the province and assist in developing more and better poultry.

FATTENING STATIONS.

The supply of poultry for market in 1908 was not as great as anticipated and from reports received from all the districts of the province it would appear that the failure was largely the result of excessive rain during the hatching season and the early stages of the rearing season.

The fattening station work was not carried on in 1908 as in 1907 owing to the fact that there did not appear to be a sufficient number of chicken for market to warrant a progressive policy in this line of the work. At some of the fattening stations the contracts for buttermilk were given without reserving a supply for the poultry fattening. In view of these conditions a circular letter was sent to all patrons of 1907 stating that the Department would arrange to supply fattening crates to those who had poultry to fatten, and was prepared to kill and market the birds thus fattened. Several secured the fattening crates and fleshed and marketed their own birds to dealers recommended by this branch.

The only fattening station operated during the season was that at Valley City Creamery, T. A. Brereton, proprietor. Mr. Brereton acting on my advice undertook the fattening station work on his own responsibility, being assisted only by instruction in killing, plucking and preparing the birds for market. In his report for 1908 he states that he received 492 fowl weighing 2,166 lbs., and 122 chicken weighing 425 lbs. He further states that he was able to pay his patrons 10c. per lb. live weight for fowl and 12½c. per lb. for chicken.

This is a system that I would respectfully recommend as worthy of encouragement as the work can be undertaken with less expense locally than if operated under the management of the poultry branch.

FINANCIAL REPORT OF POULTRY FATTENING STATION WORK, 1907.

STATION	POWL	WEIGHT	ADVANCE	CHICKS	WEIGHT	ADVANCE	TOTAL NO OF BIRDS	TOTAL WEIGHT	TOTAL ADVANCE	DRESSED WEIGHT	COST FEED SALARIES PAID MGRS	ADVANCE
Lacombe...	250	1,130	\$ 90 40	569	2,027	\$202 70	819	3,157	\$293 10	3,107	\$104 51	\$ 40.00
Red Deer				781	2,874	287 45	781	2,874	287 45	2,868½	155 66	39.05
Valley City	583	2,605	208.40	149	479	47 90	732	3,084	256 30	2,730	77 55	26 60
Ponoka...	1,121	4,456	356 48	540	1,781	178 10	1,661	6,237	534 58	6,192	210 16	83.05
Wetaskiwin				100	337	33 70	100	337	33 70	309	29.85	5.00
Wetaskiwin.				137	512	51 20	137	512	51 20	Sold Alive		
Carstairs...				143	454	45 40	143	454	45 40	514	28 49	7 15
Didsbury.				236	923	92 30	236	923	92 30	950	60 59	11 80
Olds...				947	3,354	335 40	947	3,354	335 50	3,560	172 50	47 35
Innisfail...	1,367	6,123	480 84	1,097	4,099	409 90	2,464	10,222	899 74	9,471	333 69	123 20
Totals.....	3,321	14,312	\$1144.12	4,699	16,840	\$1584 00	8,020	31,154	\$2829 17	29,702	\$1173 00	\$393 20

SUMMARY

Cost of feed.....	\$1,186.56	Total receipts	\$5,747 96
Cost of killing and marketing	3,590.70½	Total expenditure	5,263 34½
Rents, assessments, etc	92 87½		
Wages, Managers' Poultry Stations	393.20	Balance in favour of patrons	\$ 484 61½
Total Expenditure...	\$5,263 34½	Final Payment:	
		14,314 lbs. fowl, at 1c.	\$143 14
		16,328 lbs. chicken, at 2.0911c	341 47½

PROVINCIAL POULTRY BREEDING PLANT.

During the season of 1908 a provincial poultry breeding plant has been established the location of which is on the Hudson's Bay Reserve, First Street, in the City of Edmonton.

When this project became known to the manufacturers of incubators many of them donated outfits to the Department. In this we are indebted for the following:

Cyphers Incubator Co., Buffalo, N.Y., one 220 egg incubator; The Chatham Mfg. Co., Chatham, Ontario, one 120 egg incubator; The New Model Mfg. Co., Toronto, Ontario, one 120 hot air incubator and one 120 egg hot water incubator; The Lee Mfg. Co., Pembroke, Ontario, one 120 egg hot water incubator, one 120 egg automatic moisture supply incubator, and one outdoor brooder.

Owing to limited space it was impossible to use all the incubators, some of which arrived too late in the season to be of use. The incubators, however, are all of good manufacture and under favourable conditions we expect to be able to give excellent reports of their operation next season.

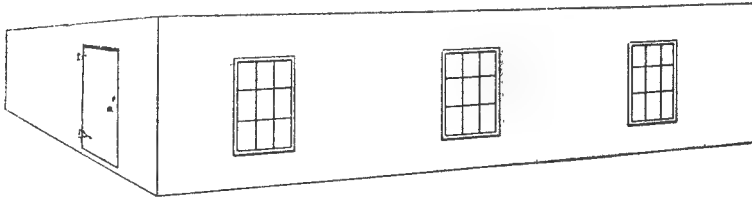
By way of securing some information relative to the operating of incubators, several hatches were taken off the eggs being secured in the province. The hatch did not prove as successful as I had wished from the fact that there was an exceptionally large percentage of infertile eggs. This condition did not apply to any particular flock from which eggs were purchased, but to practically all the eggs received from various points in the province. In several cases the infertility of the eggs amounted to from 60 to 80 per cent. of the eggs set. Upon investigation I find that this complaint is a general one throughout the province and one that is a serious handicap to success in poultry raising. The remedy is largely in the hands of the breeders and I would strongly advise that greater care be taken in selecting only strong, healthy, well developed birds from which to breed. It is possible that with a lack of knowledge in mating there has been too much inbreeding which would have a tendency to produce infertile eggs. By carefully following the advice given in Poultry Bulletin No. 1 regarding feeding for egg production a large percentage of the difficulty of infertile eggs would be overcome.

Another serious effect on the results of the hatch was the large number of chicks that died in the shell during the final stages of incubation. In many cases the number of chicks found dead in the shell exceeded the number of eggs hatched. This failure I attribute largely to the same cause as the infertile eggs; the lack of care in selecting breeding stock and the failure to supply suitable rations such as animal food, green food, grit and oyster shell, which are necessary to produce a well balanced egg capable of developing a chick of sufficient vitality to expel itself from the shell.

While a number of experiments were conducted with the object of securing information regarding the supply of moisture in incubation in this high, dry altitude no reliable results were obtained owing to the unsatisfactory condition of the eggs.

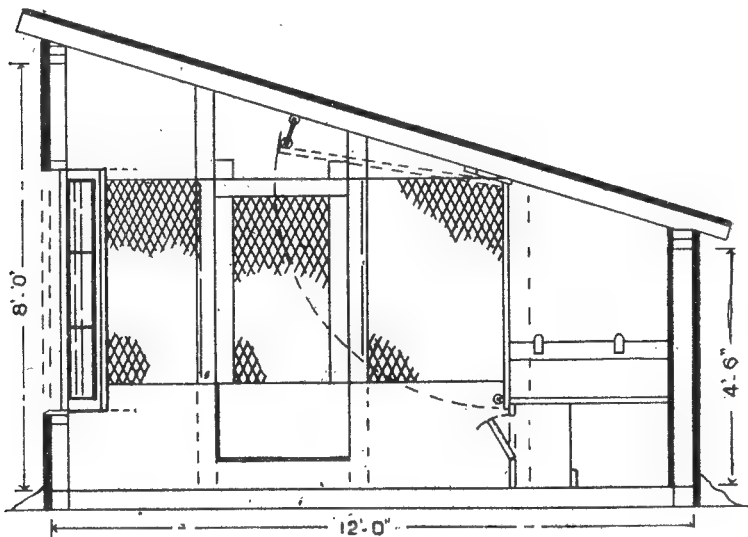
The rearing was conducted in a number of "A" shaped colony houses within which were placed the brooders of the style described in the poultry bulletin. The early stages of the rearing were carried on in limited quarters at the Old Hudson's Bay Fort, but later in the season the chicks and brooders were transferred to their present quarters on First Street.

The breeding houses were constructed on suitable ground early in the fall, the main house consisting of a building 12 feet wide and 164 feet long. The twelve pens constructed are each 12 ft. x 12 ft. In the centre of the building between the sixth and seventh pens a house 12 ft. x 20 ft. was constructed, the lower part of which is used as feed and work room and the upper part for storing straw, etc.

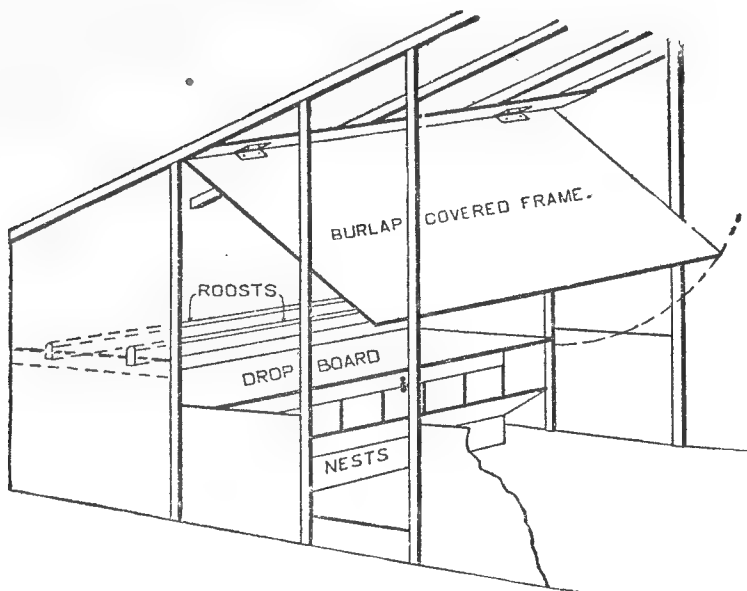


GENERAL PLAN OF THE SINGLE STYLE POULTRY HOUSE ERECTED AT THE POULTRY BREEDING STATION.

The breeding house is built on the plan of that described in the poultry bulletin as the single style, the dimensions of which are as follows: Front studding 8 ft., rear studding 4½ ft., studding placed three feet apart. Shiplap was used on the inside of studding at the rear and ends and on the outside throughout the building which was then covered with tar paper and finished with drop siding. The roof was finished by placing shiplap on the rafters, which was then covered with tar paper and finished with best B.C. shingles. Shiplap was used instead of ordinary siding or sheeting in the construction, the planed side being exposed where not covered with other material. It is thought that the slight advance in cost is offset by the better appearance apart from the advantage of being more wind and weather proof. The pen divisions were placed 12 ft. apart with four feet of solid boards between the roosting quarters,

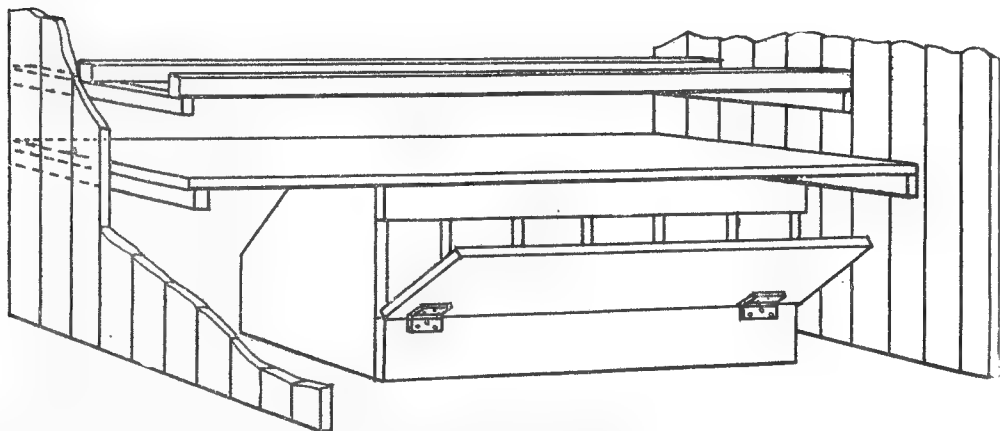


CROSS SECTION OF THE POULTRY HOUSE AT THE BREEDING STATION.



INTERIOR VIEW OF THE POULTRY HOUSE AT THE BREEDING STATION SHOWING THE POSITION OF THE NESTS AND THE DROP BOARD.

the remainder being two feet of board at the bottom and ordinary poultry netting above. A door three feet wide is placed in each partition running throughout the house and feed room. The roosts and drop board are of standard arrangement as shown by accompanying cut. Under the drop boards are trap nests which are being used as a means of securing a laying record of the individual birds, the most prolific of these to be used in building up laying strains of the various breeds. The runs extend 84 ft. to the southward and are the same width as the pens, the enclosure being two feet of boards at the bottom of the fence above which is four feet of Victor poultry netting.



INTERIOR VIEW SHOWING HOW THE ROOSTS, NESTS AND DROP BOARDS ARE CONSTRUCTED SO THAT THEY MAY BE EASILY REMOVED.

The pens contain as breeding stock good specimens of the following breeds: Barred and White Plymouth Rocks, Buff Orpingtons. White Wyandottes, Rhode Island Reds, and one pen of Brown Leghorns.

It has been decided that eggs from these pens will be supplied to applicants during the coming hatching season at the following prices:

1 setting (13 eggs)	\$1.00
3 settings	2.50
50 eggs...	3.00
100 eggs.	5.00

An incubator room 14 ft. x 24 ft. has been built at the rear of the breeding house, of sufficient capacity for present requirements. This room is constructed on the ground level with earth floor, the studding being 6 ft. high upon which is placed drop siding. Provision has been made to seal the inside with shiplap should it be found necessary when the season for incubation arrives. Ventilation is arranged for by factory cotton placed in the gable ends of the room.

The entire plant is being enclosed with regular farm poultry netting, making it secure from animals of all kinds.

I have the honour to be, Sir,

Your obedient servant,

A. W. FOLEY,

Poultry Superintendent.

6.—REPORT OF THE RECORDER OF BRANDS.

SIR.—I have the honour to submit the following report on the work of this branch of your Department for the year ended 31st December, 1908.

During the year 1,455 horse and 1,663 cattle brands were allotted, while the transfers numbered 489, changes 33 and searches and extracts 49, bringing the total brands issued for both provinces up to 3,689, which is a decrease of 32 from the previous year. To these figures, however, must be added the number of searches made at the request of the Department of Agriculture for the Province of Saskatchewan for strays reported to them numbering 337 and also strays reported direct to this office from the Province of Alberta, under the amended Stray Animals Ordinance of last year numbering 255. Each brand reported causes a search of the record to be made and in this manner our total transactions should read 4,281, an increase of 560 transactions during the year.

For the Province of Alberta alone the horse brands numbered 1,103, cattle brands 1,225, transfers 421, changes 29 and searches and extracts 37 plus 255, under Stray Animals Ordinance, being a total of 3,070 or an increase of 279 transactions for the year. An analysis of the foregoing figures shows that a total increase of brands issued for horses and cattle in the two provinces was 8, being a decrease of 10 horse brands but an increase of 18 cattle brands; while for the Province of Alberta alone the horse brands increased 73, while the cattle brands show a decrease of 5.

An examination of the records shows that the large proportion of new applications for horse brands, as might have been expected, come from points where immigration has been pouring in for the past year or two. The districts immediately north and south-east of Lethbridge, Taber, Grassy Lake and along the Macleod and Edmonton line of railway, where the fall wheat farmers are most numerous, Calgary and Gleichen districts and new towns along the Canadian Northern Railway have the greatest number, but a few have also been received from the far north-west including Grand Prairie and the mouth of the Jasper Pass. The applicants for cattle brands on the other hand are more numerous from the Medicine Hat district and from locations on and north of the Red Deer immediately north and east of Gleichen towards the inter-provincial boundary line. These are practically the only districts where large open areas can now be found suitable for grazing large herds.

A considerable amount of work was undertaken during the fall of the year preparing material for a supplement to the brand book for the years 1907 and 1908.

No meeting of the brand commissioners was held during the year, as the series of brands formerly arranged for had not been exhausted. It will, however, be necessary to hold one sometime during the approaching spring.

Notices of stray animals have been reported in accordance with the amended Ordinance, and in each case where it has been possible to identify the owner, the party reporting has had intimation of owner's name and address. In a number of cases animals are described as bearing an "indistinct brand," and in these cases a

request has been made for a careful further examination and asking if necessary to arrange to clip the hair off. It would be well, I think, if all justices of the peace insisted upon having the brand clipped on every animal offered for sale which has been advertised as bearing an indistinct brand.

The number of letters received during the year, referring to the Province of Alberta, was 4,535, while the number of documents despatched was 6,612, a total of 11,147, being an increase of 687 over previous year.

The following is a statement showing transactions from 1898 up to 31st December, 1908, from which you will notice that the total number of brands on record at 31st December last was 37,502:

TRANSFERS.

1899	132
1900	165
1901	222
1902	265
1903	400
1904	402
{ N. W. Territories	299
1905 { Alberta	120
{ Saskatchewan	80
1906 { Alberta	389
{ Saskatchewan	72
1907 { Alberta	430
{ Saskatchewan	59
1908 { Alberta	421
{ Saskatchewan	68

CHANGES.

1899	27
1900	20
1901	26
1902	43
1903	43
1904	32
{ N. W. Territories	7
1905 { Alberta	1
{ Saskatchewan	38
1906 { Alberta	2
{ Saskatchewan	28
1907 { Alberta	6
{ Saskatchewan	29
1908 { Alberta	4
{ Saskatchewan	

SEARCHES AND EXTRACTS.

1899	35
1900	42
1901	100
1902	144
1903	124
1904	81
{ N. W. Territories	13
1905 { Alberta	2
{ Saskatchewan	73
1906 { Alberta	23
{ Saskatchewan	73
1907 { Alberta	15
{ Saskatchewan	292
1908 { Alberta	349
{ Saskatchewan	

Number of brands re-allotted in 1898 3,228

DEPARTMENT OF AGRICULTURE

CATTLE BRANDS.

1898	.....	2,111
1899	.....	1,466
1900	.....	1,508
1901	.....	1,689
1902	.....	1,934
1903	.....	2,390
1904	.....	2,034
1905	{ N. W. Territories	1,353
	{ Alberta	337
	{ Saskatchewan	70
1906	{ Alberta	1,894
	{ Saskatchewan	641
1907	{ Alberta	1,230
	{ Saskatchewan	415
1908	{ Alberta	1,225
	{ Saskatchewan	438

HORSE BRANDS.

1898	.....	941
1899	.....	821
1900	.....	886
1901	.....	947
1902	.....	1,234
1903	.....	1,390
1904	.....	1,346
1905	{ N. W. Territories	985
	{ Alberta	248
	{ Saskatchewan	89
1906	{ Alberta	1,361
	{ Saskatchewan	371
1907	{ Alberta	1,030
	{ Saskatchewan	435
1908	{ Alberta	1,103
	{ Saskatchewan	352

Total brands on record up to 31st December, 1908, 37,502

Total transactions in	1898	.....	6,280
"	"	1899	 2,419
"	"	1900	 2,621
"	"	1901	 2,920
"	"	1902	 3,559
"	"	1903	 4,367
"	"	1904	 3,949
"	"	1905	{ N. W. Territories
			{ Alberta
			{ Saskatchewan
"	"	1906	{ Alberta
			{ Saskatchewan
"	"	1907	{ Alberta
			{ Saskatchewan
"	"	1908	{ Alberta
			{ Saskatchewan

JAS. WILSON,
Recorder of Brands.

7.—EDUCATIONAL WORK.

SIR,—I beg to present herewith the second annual report of the superintendent of fairs and institutes for the year 1908.

I.—FARMERS' INSTITUTE MEETINGS.

During the year the work of the farmers' institutes in the province has greatly developed. 176 meetings were held at which there were 220 sessions, and as near as can be estimated about 14,000 people were in attendance. When such a number of people gather in their respective localities for the purpose of discussing subjects which make for the betterment of rural life, the Department feels that the result of the year's campaign must mark a distinct uplift in the agriculture of the province. At each of the meetings from two to five speakers were supplied. In choosing speakers the object has been to secure men who were not only thoroughly conversant with the subject upon which they were asked to speak, but also men who had a good knowledge of local conditions. In carrying out the work the Department has had in mind not only the dissemination of practical knowledge on various subjects directly effecting agriculture, but also the development of local talent by a discussion of the subject under treatment by those who attend the meeting. There is a great deal to be gained by bringing the ordinary farmer into touch with the more successful man in his district so that the poor farmer may become conversant with the methods employed by those more advanced. Heretofore, most of the institute meetings have been held on or near the line of railway. This year many districts somewhat removed from the line of railway were visited, and it is gratifying to note that the work was so highly appreciated. A number of encouraging letters have reached the Department in which is mentioned the practical manner in which the subjects have been treated by men sent out from the Department, and also the inspiration which these meetings have been in the community. It is significant that the greatest interest is shown in districts which are more or less removed from the railway, and also in those where the railway has lately been built.

An extensive dairy campaign was carried on during the early part of the year covering the central portion of the province. There were two speakers on the road for about two and one-half months. Besides this a few scattered dairy meetings were held during the spring and summer months. Mr. C. Marker, dairy commissioner, and Mr. H. S. Pearson and Mr. Geo. Scott, dairy instructors from the dairy commissioner's office, discussed approved methods of dairying including care of milk, separating, ripening and churning of cream, working and packing of butter, testing of milk, etc. Mr. J. G. Clark, Gilliston, dealt with the building up of the dairy herd, the ideal dairy animal, the feeding, care, management and stabling of dairy animals.

The following is a list of dairy meetings held in the province in 1908:

Airdrie	January 6	2 p.m.
Crossfield	" 7	2 and 8 p.m.
Carstairs	" 8	2 p.m.
Adkins' School	" 9	2 p.m.
Didsbury	" 10	2 and 8 p.m.
Sunny Slope	" 11	2 p.m.
Trochu Valley	" 13	2 p.m.
Mayton	" 14	2 p.m.
Olds	" 15	2 and 8 p.m.
Harmattan	" 16	2 p.m.
Bowden	" 17	2 p.m.
Innisfail	" 18	2 p.m.
Markerville	" 20	2 and 8 p.m.
Evarts	" 21	2 p.m.
Burnt Lake	" 22	2 p.m.
Lakeview	" 23	2 p.m.
Grassy Lake	" 24	2 p.m.
Penhold	" 25	2 p.m.
Red Deer	" 27	2 p.m.
Blackfalds	" 28	2 p.m.
Lacombe	" 29	2 p.m.
Bentley	" 30	2 p.m.
Rimbey	" 31	2 p.m.
Stettler	February 4	2 p.m.
Content	" 5	2 p.m.
Lamerton	" 6	2 p.m.
Earlville	" 7	2 p.m.
Valley City	" 8	2 p.m.
Ponoka	" 10	2 p.m.
Ferrybank	" 11	2 p.m.
Sedgewick	" 13	2 p.m.
Hastings Coulee	" 14	2 p.m.
Spring Lake	" 15	2 p.m.
Daysland	" 17	2 p.m.
Bawlf	" 18	2 p.m.
Camrose	" 19	2 p.m.
Rosenroll	" 20	2 p.m.
Lewisville	" 21	2 p.m.
Wetaskiwin	" 22	2 p.m.
Leduc	" 24	2 p.m.
Conjuring Creek	" 25	2 p.m.
Millet	" 26	2 p.m.
Bonnie Glen	" 27	2 p.m.
Stony Plain	" 29	2 p.m.
Viking	March 3	2 p.m.
Pincher Creek	" 11	2 and 8 p.m.
Granum	" 12	2 p.m.
Claresholm	" 13	2 p.m.
Stavely	" 14	2 p.m.
Nanton	" 16	2 p.m.
Cayley	" 17	2 and 8 p.m.
High River	" 18	2 p.m.
Okotoks	" 19	2 p.m.
Gleichen	" 20	2 and 8 p.m.
Langdon	" 21	2 p.m.
Lloydminster	January 13	2 p.m.
Kitscoty	" 14	2 p.m.
Islay	" 15	2 p.m.
Vermilion	" 16	2 and 8 p.m.
Mannville	" 17	2 p.m.
Vegreville	" 21	2 and 8 p.m.
Lavoy	" 22	2 p.m.
Ranfurly	" 23	2 p.m.
Innisfree	" 24	2 p.m.

A poultry delegation was engaged for about two months. Mr. A. W. Foley, poultry superintendent, and Mr. J. Longmore, Edmonton, discussed approved methods of housing, natural and artificial incubation, rearing, feeding and fattening poultry. There is no doubt that as a direct result of the educational work in poultry, both the amount and quality of the products have greatly increased.

List of Poultry Meetings.

Edmonton, Fort Saskatchewan, Lamont, Chipman, Mundare, Lloydminster, Kitscoty, Islay, Vermilion, Mannville, Ranfurly, Innisfree, Viking, Macleod, Lethbridge, Medicine Hat, Stirling, Raymond, Magrath, Cardston, Cowley, Pincher Creek, Granum, Claresholm, Staveland, Nanton, Cayley, Okotoks, Langdon, Strathcona.

Dry Farming Meetings.

During the month of June, Prof. H. W. Campbell, of Lincoln, Nebraska, accompanied by a local speaker, addressed twelve meetings in the southern portion of the province on "Scientific Cultivation of the Soil." This gentleman brings to Alberta the training which years of experience have given under conditions more or less similar to those existing in this province. There is no doubt that if a maximum yield of any crop is to be harvested in any country the fundamental principles of cultivation must not only be studied, but also these principles must be applied on the land. Our climate is such that it is necessary to follow what are called dry farming methods if the greatest success is to be attained. We are favoured in this respect with having a soil rich in fertility so that a small amount of water is required in making the plant food available, particularly in a high altitude such as this. The great difficulty is that our rain fall is not distributed throughout the year, consequently the problem of soil cultivation largely narrows itself into the conservation of moisture; in other words, that the moisture will be held subject to the demand of the growing crops by a proper system of cultivation. Prof. Campbell has aroused great interest in the districts where he has addressed meetings. A large number of farmers are practising his method of cultivation, and in most cases an increase in yield is reported. Another good feature of the method advised by Prof. Campbell is that it permits of successfully combating the weed question. A number of requests have reached the Department for the services of Prof. Campbell should he be engaged by the Department again on institute work.

List of Dry Farming Meetings.

Medicine Hat	June 15th.
Cardston	June 16th.
Magrath	June 17th.
Raymond	June 18th.
Lethbridge.	June 19th.
Pincher Creek	June 20th.
Macleod.	June 22nd.
Claresholm	June 23rd.
Nanton	June 24th.
High River	June 25th.
Gleichen	June 26th.
Didsbury.	June 27th.

Travelling Grain Judging School.

A travelling grain judging school was on the road about two and one-half months. Two coaches were secured from the C.P.R. Company and used for classroom purposes. Illustrative material was carried and lectures delivered on grains, grasses, weeds, cultivation of the soil, etc. Practically all the stations in the province were visited and one full day was spent at each place. A corps

of from three to five lecturers were in attendance including the following gentlemen: W. C. McKillican, Dominion Seed Branch, Calgary; Thos. Woolford, Cardston; T. B. R. Henderson, chief inspector of weeds; Arch. Mitchell, Forestry Branch, Indian Head; T. H. Mason, Staffordville, Ontario; Jas. Murray, superintendent of Experimental Farm, Brandon; W. H. Fairfield, superintendent of Experimental Farm, Lethbridge; G. H. Hutton, superintendent of Experimental Farm, Lacombe; Thos. Jamieson, Alberta Pacific Elevator Co., Calgary; Jas. Smith, Alberta Pacific Elevator Co., Calgary, and H. A. Craig, superintendent of fairs and institutes. The Department wishes here to express its appreciation of the assistance rendered by the Dominion Seed Branch. Mr. McKillican, one of the western representatives, rendered valuable assistance in the work, his branch contributing toward the expenses of the school.

The following programme was carried out at each place visited:

Studies in Barley.

- 10 a.m.—Varieties and brewing qualities.
- 10.20 a.m.—Judging commercial grades.
- 10.40 a.m.—Examining for seed purposes.

Studies in Grasses.

- 11 a.m.—Best varieties to grow.

Studies in Weeds.

- 11.20 a.m.—Identification and eradication of weeds.

Studies in Oats.

- 1.30 p.m.—Varieties and milling qualities.
- 1.50 p.m.—Judging commercial grades.
- 2.10 p.m.—Examining for seed purposes.

Studies in Wheat.

- 2.40 p.m.—Varieties and milling qualities.
- 3.10 p.m.—Judging commercial grades.
- 3.40 p.m.—Examining for seed purposes.

This school reached in the neighbourhood of 5,000 people. On account of being able to carry illustration material from place to place, and further because of stops being made at intervals of ten miles, the work was perhaps the most thorough of its kind that has yet been carried on in the province. Much information was given respecting the grading of grain. Standard grades of wheat, oats and barley were secured from the Grain Inspection Department of the Dominion Government. These were arranged in trays for the people to examine, the reason being given for certain grain being placed in a certain grade. Special emphasis was laid upon seed grain. A large number of the important varieties of wheat, oats and barley were set before the people for examination. Samples of pressed weeds and also weed seeds were carried and a great deal of valuable information was imparted on this subject. Numerous requests have reached the Department for another visit of the travelling grain judging school. The Department wishes here to express its appreciation of the assistance rendered by the railway companies. Excellent attention was given to moving the cars from place to place and every courtesy was extended by the railway officials to

those connected with the seed train. The C.P.R. deserve special notice owing to the fact that they supplied two coaches for classroom purposes at a very reasonable rate.

List of Places Visited.

Langdon...	January 7th.
Strathmore...	" 8th.
Gleichen...	" 9th.
Medicine Hat...	" 10th.
Taber...	" 11th.
Stirling...	" 13th.
Raymond...	" 14th.
Magrath...	" 15th.
Cardston...	" 16th and 17th.
Lethbridge...	" 18th.
Pincher...	" 20th.
Macleod...	" 21st.
Granum...	" 22nd.
Claresholm...	" 23rd.
Stavely...	" 24th.
Nanton...	" 25th.
High River...	" 27th.
Okotoks...	" 28th.
Calgary...	" 29th.
Airdrie...	" 30th.
Crossfield...	" 31st.
Carstairs...	February 1st.
Didsbury...	" 3rd.
Olds...	" 4th.
Bowden...	" 5th.
Innisfail...	" 6th.
Red Deer...	" 7th.
Stettler...	" 10th.
Alix...	" 11th.
Lacombe...	" 12th.
Ponoka...	" 13th.
Daysland...	" 15th.
Camrose...	" 17th.
Wetaskiwin...	" 18th.
Leduc...	" 19th.
Strathcona...	" 20th.

The following places on the C.N.R. were also visited: Fort Saskatchewan, Lamont, Chipman, Mundare, Vegreville, Lavoy, Ranfurly, Innisfree, Mannville, Vermilion, Islay, Kitscoty, Lloydminster, Morinville and Stony Plain.

Up to the present year no effort has been made to carry information to the northern portion of the province. In the month of May a delegation was sent out to visit Lesser Slave Lake and Peace River districts, upon request of Messrs. W. F. Bredin and A. Brick, local members for the districts of Athabasca and the Peace River, respectively. Mr. W. C. McKillican, Dominion Seed Branch, Calgary, and the writer spent about six weeks in these constituencies discussing the questions of seed grain, cultivation of the soil and live stock. The entire trip covered about 1,400 miles, the larger portion of which had to be made by driving or riding. In all six meetings were held. At the first meeting only about twenty-five people were in attendance, and the second was somewhat smaller. At the other four meetings, however, the attendance ranged from 45 to 95. A large number of the people who came to the meetings had never attended a farmers' institute meeting before, consequently many came out of curiosity. However, from the discussion that took place and the large number of questions that were asked it was not difficult to determine the interest that was being taken. On account

of the great difficulty of advertising in that new country the attendance was smaller than it otherwise would have been. After having been over the ground, however, it will be much easier to advertise the meetings in the future. We were assured that if the Department sent out another delegation and the meetings were properly advertised, there would be fully double the attendance. The time at the disposal of the delegation was not sufficient to permit of visiting some of the best portions of the northern district. It would require about two and one-half months to complete the trip, taking in the Grande Prairie and Fort Vermilion districts on the Peace River, and returning by Lake Chippeweyan and Fort McMurray on the Athabasca. Meetings were held at the following places: Athabasca Landing, Pine Creek, Dunvegan, Peace River Crossing, Lesser Slave Lake and Prairie River.

Some very encouraging letters have reached the Department within the last year respecting the educational work which the agricultural societies are endeavouring to do. These societies have not only co-operated very willingly with the Department in the institute meetings held, but in a great number of cases have held supplementary meetings themselves. Monthly meetings are not reported by any society, but in some cases as many as ten institute meetings have been reported in the year. The two institute meetings called for by the Ordinance respecting Agricultural Societies can accomplish very little in the dissemination of agricultural information, but if meetings are held at short intervals where local speakers take part discussing subjects of local interest, they are sure to prove very valuable and will be well attended if properly advertised.

It is hoped that the time is near at hand when the agricultural societies will undertake the advertising of institute meetings which are held under the auspices of the Department. In most of the other provinces of Canada, and in most of the states of the Union, local organizations do the advertising for the district. In this province the advertising is done entirely by the Department. It is a difficult matter to attend to the arrangement for halls, heating, lighting, etc., and also to the posting of advertising from the central office. The Department is however greatly indebted to the secretaries of the agricultural societies and to many other persons who have rendered assistance in this work. About fifty posters are sent out to a number of persons for every meeting that is held. A circular letter is sent announcing institute meetings and outlining the subjects to be discussed. This latter has proven an effective means of advertising. When a man receives a letter respecting a certain meeting he is much more likely to be present when his attention is called to it so directly than when he merely sees a poster or hears of it from his neighbour. The day is perhaps not far distant when it will be necessary to organize farmers' institute clubs. In other provinces and in many of the states, the work is not handled by the agricultural societies, but by a separate organization known as a "Farmers' Institute Association." The persons in charge are much more closely in touch with the work and their efforts are not spread over such a wide field as when the work of the whole state or province is carried on from a central office.

II.—FARMERS' INSTITUTE WORKERS' CONVENTION.

A convention of the institute workers for the province was held in the City of Calgary on January 4th, 1908. The following programme was carried out:

1. "How to make Farmers' Institutes Successful in Alberta."
Speakers: Geo. Harcourt, Deputy Minister of Agriculture;
A. Mitchell, Chief Inspector of Weeds.
2. "The Farmer in Relation to Agricultural Education."
Speakers: G. H. Hutton, Superintendent Experimental Farm, Lacombe;
W. H. Fairfield, Superintendent Experimental Farm, Lethbridge.
3. "An Institute Address."
Speakers: W. C. McKillican, Representative Seed Branch, Dominion
Department of Agriculture;
C. Marker, Dairy Commissioner.
4. "The Institute Worker."
Speakers: T. H. Mason, Staffordville, Ont;
H. A. Craig, Superintendent Fairs and Institutes.

This convention of the workers has been found very beneficial in discussing institute methods and also in arriving at definite conclusions as to the presentation of uniform ideas to the public.

III. --AMERICAN CONVENTION OF FARMERS' INSTITUTE WORKERS.

In November the writer had the privilege of attending the convention of the American Association of Farmers' Institute Workers held in Washington, D.C. Most of the States of the Union were represented and four of the provinces. Much of common interest was discussed by men of long years of experience in institute work, and the writer obtained a great deal of valuable information which may well be applied in this province. A noticeable feature was that Alberta is well to the front in her agricultural educational work, not only in the amount of money expended, but also in the methods employed in carrying out the work. It was further noticeable that the farmers of the province are more in sympathy with the work than are the people in many of the older States and provinces. The matter of securing attendance and interest at institute meetings seemed to be the question of greatest importance to a large number of the delegates present.

IV.—AGRICULTURAL SOCIETIES' LIBRARIES.

During the year the Department sent out a list of books bearing on agricultural topics which would be supplied to agricultural societies and exhibition associations at a special rate. This, however, did not meet with very much favour as only a few societies have expressed their intention of securing the books. These books are being supplied at less than half rate delivered to the society.

The following is a list with names of authors and prices:

LIST OF BOOKS FOR AGRICULTURAL SOCIETIES' LIBRARY.

<i>Title</i>	<i>Author</i>	<i>Price</i>
1. Successful Farming	Rennie.	\$.75
2. Feeding of Animals	Jordan	.63
3. Principles of Agriculture.	Bailey	.63
4. The Soil (Revised)	King	.75
5. Milk and Its Products.	Wing.	.50
6. Irrigation and Drainage.	King	.75
7. Garden Making.	Bailey	.50
8. Swine	Prof. Day.	.63
9. Principles of Fruit Growing	Bailey	.63
10. Principles of Vegetable Gardening	Bailey	.63
11. Judging Live Stock	Craig.	.75
12. Feeds and Feeding.	Henry	1.00
13. Farm Poultry.	Watson	.63
14. Irrigation Farming.	Wilcox	1 00

15. Insects Injurious to Staple Crops.	Dean.	.75
16. Canadian Dairying.	Dean.	.38
17. Cereals in America.	Beal.	.88
18. The Book of Alfalfa.	Coburn.	1.00
19. Modern Sheep Breeds and Management.	Shephard.	.75
20. The Farmstead.	Roberts.	.63
21. Clovers and How to Grow Them.	Shaw.	.50
22. Veterinary Elements.	Hopkins.	.63
23. Cattle Breeding.	Warfield.	1.00
24. Forestry in Minnesota.		.25
25. The Practical Garden Book.	Bailey.	.50
26. Entomology for Beginners.	Parkard.	.75
		\$17.80

It is regrettable that a larger number of the societies did not take advantage of this offer. There is no doubt that in many rural communities there is a great dearth of agricultural literature. In the replies that were received from the circular sent to the societies respecting this matter, it was invariably stated that the society would take advantage of the offer were it not for lack of funds.

V.—FAIRS.

The past year has marked a distinct advance in the exhibitions held throughout the province. These exhibitions have now become too numerous for one to attend them all. However, the writer managed to visit about thirty of the forty held. In almost every case it was noticeable that there was a marked improvement. No doubt the work of the Alberta Fairs' Association is in quite a large measure responsible for this improvement. At the annual convention of this association delegates are in attendance from the various societies and matters of common interest are discussed. Last year a number of the societies put into practice the new methods which were recommended by the association, and the results have been highly satisfactory.

The Department has supplied official judges for the placing of awards on live stock classes to all the societies which were represented at the Alberta Fairs' Association Convention. A part of the business of this convention is to arrange fair dates in circuits so that it will be possible for the judges supplied by the Department to place the awards at a series of fairs without unnecessary loss of time. Wherever possible poultry judges were also supplied, but the Department did not undertake to supply poultry judges to all fairs as there are a number of fairs at which the poultry exhibit is not large. In some instances it was necessary to appoint judges for different breeds of live stock. Heretofore one judge on horses and one on cattle has been sufficient at all the fairs, except Calgary and Edmonton, but in the future it will be necessary to increase the number of judges at some of the fairs on both horses and cattle.

At the Dominion Exhibition in Calgary five judges were supplied. An exception was made in this case on account of the large number of entries. A number of requests have come from societies for an official judge of grains, grasses, weeds, vegetables, etc. The Department has not made a practice of supplying judges for these products.

The following is a list of fairs held during 1908 together with dates and names and addresses of judges:

FAIR	DATE	JUDGE FOR HORSES	JUDGE FOR CATTLE, SHEEP AND SWINE
Edmonton.	June 23, 24, 25, 26	J. Gardhouse, Highfield, Ont.	Prof. J. A. Grisdale, Ottawa, Ont.
Calgary.	June 29 to July 9.	C. M. McRae, Ottawa, Ont. . . J. Gardhouse, Highfield, Ont. . . C. M. McRae, Ottawa, Ont. . . Allan Cameron, Annan, Ont. . . C. M. McRea, Ottawa, Ont. . .	Prof. Geo. E. Day, Guelph, (Cattle and Swine) Prof. J. H. Grisdale, Ottawa. (Cattle and Swine) Prof. G. E. Day, Guelph, Ont.
Okotoks.	July 10.	C. M. McRea, Ottawa, Ont. . .	Prof. G. E. Day, Guelph, Ont.
Innisfail.	July 13, 14.	"	"
Red Deer.	July 15, 16, 17.	"	"
Ft. Saskatchewan.	Aug. 4.	E. C. Hallman, Airdrie, Alta.	J. G. Clark, Gilliston, Alta.
Macleod.	Aug. 5, 6, 7.	Bryce Wright, DeWinton, . . .	T. H. Tinney, Medicine Hat, Alta.
Lethbridge.	Aug. 11, 12, 13.	"	"
Leduc.	Sept. 15.	E. C. Hallman, Airdrie, Alta..	Bryce Wright, DeWinton, Alta.
Olds.	Sept. 16.	"	"
Raymond.	Sept. 15, 16.	J. G. Clark, Gilliston, Alta. .	W. R. Winslow, Lacombe, Alta.
Magrath.	Sept. 17, 18.	"	"
Medicine Hat.	Sept. 22, 23, 24.	"	"
Cardston.	Sept. 24, 25.	"	"
Pincher Creek.	Sept. 30.	"	"
St. Albert.	Sept. 30.	M. D. Geddes, Calgary, Alta.	T. H. Tinney, Medicine Hat, A
Nanton.	Oct. 1, 2.	J. G. Clark, Gilliston, Ont. . .	W. R. Winslow, Lacombe, A.
Stettler.	Oct. 1, 2.	M. D. Geddes, Calgary, Alta. .	T. H. Tinney, Medicine Hat, A
Daysland.	Oct. 1, 2.	G. Hutton, Lacombe, Alta. . .	T. B. R. Henderson, Edm'ton
Vegreville.	Oct. 6, 7.	"	T. H. Tinney, Medicine Hat, A
Lacombe.	Oct. 6, 7.	M. D. Geddes, Calgary, Alta. .	J. G. Clark, Gilliston, Alta.
Ponoka.	Oct. 7, 8.	"	"
Innisfree.	Oct. 7, 8.	G. H. Hutton, Lacombe, A. . .	T. H. Tinney, Medicine Hat, A
Knee Hill Valley.	Oct. 7.	Bryce Wright, DeWinton, A. . .	Bryce Wright, DeWinton, A.
Irvine.	Oct. 6.	"	"
Vermilion.	Oct. 8, 9.	G. H. Hutton, Lacombe, Al. .	T. H. Tinney, Medicine Hat, A
Three Hills.	Oct. 9.	Bryce Wright, DeWinton, A. . .	Bryce Wright, DeWinton, A.
Didsbury.	Oct. 12, 13.	E. C. Hallman, Airdrie, Alta. .	"
Gleichen.	Oct. 14.	Bryce Wright, DeWinton, A. . .	"
Viking.	Oct. 13, 14.	G. H. Hutton, Lacombe, Al. . .	T. H. Tinney, Medicine Hat, A
Mannville.	Oct. 14, 15.	"	"
Priddis.	Oct. 16.	Bryce Wright, DeWinton, A. . .	M. D. Geddes, Calgary, Alta.

EXHIBITION STATEMENT, 1908.

SOCIETY	Date of Exhibition	No. of Entries	Amount paid in prizes for sports	Amount paid in prizes for field com- petition	Amount paid in prizes for stallion show	Amount paid in prizes for seed grain show	Amount paid in other prizes	Exhibition Grant payable 1908	Fine
Carlston	Sept. 24, 25...	1,121	\$33 00	\$140 00		\$ 43 00	\$ 830 45	\$ 689.97	\$ 10 00
Magrath.	Sept. 17, 18	862		125.00		64.00	1,077 25	909.17	...
Didsbury	Oct. 12, 13.	630					591 00	394 00	10 00
Innisfail	July 13, 14.	929					1,516 00	1,099 67	...
Lacombe	Oct. 6, 7.	533	164 50	100 00		89 00	1,144 00	926 23	5 00
Lethbridge and District	Aug. 11, 12, 13	761	1,263 50	225 00		96 90	2,125 25	1,646 83	...
Macleod	Aug. 5, 6, 7	470	1,199 35	95 00		80 00	1,164 00	839 33	...
Medicine Hat	Sept. 22, 23, 24	692	517 50	50 00			891 75	627 83	...
Pincher Creek	Sept. 30	375	1,187 00				426 50	284 33	5 00
Ponoka.	Oct. 7, 8	861	307 00				1,513 65	1,009 10	...
Raymond	Sept. 15, 16	714	195 25	75 00		87 00	1,032 75	825 50	...
Olds	Sept. 15, 16	854			\$170 42	40 00	394 50	303 00	20 00
Okotoks	July 10.	544					649 25	546 45	5 00
Vermilion Valley (Vegreville)	Oct. 6, 7	509					569 75	339 83	90 00
Wetaskiwin	Oct. 14, 15.	427	33 65				629 50	419 67	70 00
Leduc	Sept. 15	461	176 25	100 00			660 00	506 67	45 00
Nanton.	Oct. 1, 2.	351					589 00	392 67	15 00
Vermilion	Oct. 8, 9.	420	191 00				498 50	332 33	...
Priddis and Millarville	Oct. 16	193					338 00	225 33	...
Viking and Birch Lake District	Oct. 13, 14.	424					347 00	231 33	...
St. Albert and Morinville	Sept. 30	85	105 00				458 50	305 67	10 00
Mannville	Oct. 14, 15.	464	50 00				363 25	242 17	20 00
Stettler	Oct. 1, 2.	302	226 00				455 75	303 83	5 00
Daysland	Oct. 1, 2.	156	327 50				330 50	220 33	90 00
Knee Hill Valley	Oct. 7.	390	39 00				347 50	231 67	...
Irvine	Oct. 6	275	4 00				322 00	214 67	...
Immisfree	Oct. 7, 8.	138	27 00				175 10	194 33	25 00
Alix	Oct. 8	263					291 50	194 33	20 00
Lloydminster	Oct. 8	755					811 75	541 17	60 00
Gleichen	Oct. 14	303					265 25	176 83	20 00
Three Hills	Oct. 9	243					206 80	117 07	20 00
Red Deer Exhibition Association	July 15, 16, 17.	486	160 00			69 50	1,571 35	1,117 07	...
Fort Saskatchewan Exhibition Association	Aug. 4	399	475 00				491 50	327 67	...
Inter-Western Pacific Exhibition Association	June 29-July 9.	4,181	12,274 34				14,783 72	3,000 00	...
Edmonton Industrial Exhibition Association	June 23, 26	1,189	5,540 44				4,320 00	3,000 00	...

FINANCIAL STATEMENT, 1908.

SOCIETY	Balance on hand from 1907	Miscellaneous Receipts	Government Grant paid in 1908	Total Receipts	Total Expenditure	Balance on hand	Assets	Liabilities
Cardston		\$ 710 05	\$ 836 33	\$ 1,546 38	\$ 1,643 80	\$ 88 44	\$ 521 30	\$ 1,357 02
Magrath	\$ 86 16	1,363 70	593 33	2,043 19	1,954 75	2,088 44	2,088 44	650 00
Driskbury	260 41	555 08	294 67	1,162 83	931 90	230 93	230 93	
Instail	41 69	3,444 90	726 00	4,212 59	4,203 44	9 15	6,053 85	2,660 10
Lacombe	3,517 62	4,614 63	436 10	9,568 35	10,432 94	9 00	11,330 24	1,773 59
Lethbridge and District	35 85	7,138 95	1,916 08	9,090 88	9,087 93	2 95	10,097 27	6,100 00
Macleod	27 01	4,326 41	787 50	5,140 92	5,140 01	1 00	845 20	1,200 00
Medicine Hat	113 70	2,867 67	722 67	3,704 04	3,661 95	42 09	2,307 09	
Pincher Creek		471 00	256 67	727 67	1,023 78		5,000 00	1,780 50
Ponoka	1 18	2,114 41	535 15	2,650 74	2,571 27	79 47	724 47	1,200 00
Raymond		1,296 83	505 83	1,802 66	2,896 11		1,500 00	1,699 03
Olds	135 56	2,328 75	403 67	2,867 98	2,803 79	64 19	3,564 19	1,527 85
Okotoks	31 54	2,480 70	644 67	3,156 91	3,158 96		1,300 00	1,102 05
Vermilion Valley	15 19	1,359 00	430 83	1,805 02	1,652 68	152 34	3,845 84	3,103 50
Wetaskiwin	70 65	1,245 25	297 67	1,613 57	1,434 70	158 87	1,457 17	700 00
Leduc	20 80	956 65	553 23	1,530 68	1,735 83	83	50 83	206 00
Nanton	9 56	375 00	483 00	867 56	830 05	37 51	37 51	200 00
Vernilion	18 78	907 60	413 17	1,339 55	1,332 08	7 47	7 47	138 50
Priddis and Millarville		316 00	278 33	594 33	574 10	20 23	58 73	184 43
Viking and Birch Lake District		296 00	150 00	446 00	633 43			225 00
St. Albert and Morinville		778 25	470 00	1,248 25	1,210 06	38 19	38 19	329 66
Mannville		544 65		544 65	624 31		54 50	704 89
Stettler		1,088 65		1,506 98	1,786 87		1,023 40	522 45
Daysland		1,683 19	418 33	1,683 19	1,659 79	23 40	59 20	
Clareholm		84 00		84 00	24 80		59 20	
Milnerton		485 05		485 05	464 10	20 95	20 95	172 50
Irvine		453 85		453 85	429 80	24 05	196 25	50
Taber		81 00		81 00	5 95	75 05	75 05	230 00
Innisfree		389 80		389 80	361 90	27 90	27 90	
Sedgewick		119 00		119 00	43 55	75 45	75 45	
Alix		435 50		435 50	436 90	20 70	14 00	143 04
Lloydminster		984 10		984 10	963 40	38 06	65 70	700 00
Gleichen		472 45		472 45	434 39	38 06	38 06	
Three Hills		471 80		471 80	364 80	107 00	578 80	
Red Deer Exhibition Association	21 31	20,379 06	1,168 53	21,768 90	21,776 16		10,065 00	9,044 55
Fort Saskatchewan Exhibition Association	3 84	3,505 00	300 67	3,809 51	3,805 42	4 09	10,579 09	881 48
Inter-Western Pacific Exhibition Association	132 43	150,591 57	2,853 23	153,444 80	132,316 27	21,128 53	25,391 53	539 50
Edmonton Industrial Exhibition Association	30 43	49,115 81	3,000 00	52,146 24	52,262 84		6,552 43	9,552 43

INSTITUTE STATEMENT, 1908.

SOCIETY	No. of Members	No. of Meetings	Total Attend- ance	Members'p Grant P'y'le 1909	FINE
Cardston.	105	2	95	\$105 00	...
Magrath.	151	2	105	150 00	...
Didsbury.	294	2	147	150 00	...
Innisfail.	157	4	160	150 00	...
Lacombe.	113	2	95	113 00	...
Lethbridge and District.	196	4	127	150 00	...
Macleod.	199	2	100	150 00	...
Medicine Hat.	49	3	71	...	...
Pineher Creek.	102	2	25	102 00	...
Ponoka.	152	2	85	150 00	...
Raymond.	101	3	165	101 00	...
Olds.	141	2	115	141 00	...
Okotoks.	145	2	100	145 00	...
Vermilion Valley (Vegreville).	121	2	60	121 00	...
Wetaskiwin.	149	2	200	149 00	...
Leduc.	103	2	220	103 00	...
Nanton.	70	2	47	70 00	...
Vermilion.	68	2	59	68 00	...
Priddis and Millarville.	140	2	89	140 00	...
Viking and Birch Lake District ..	62	2	75	62 00	...
St. Albert and Morinville	89	1	150	...	...
Mannville.	158	2	77	150 00	...
Stettler.	160	2	...	150 00	...
Daysland.	84	2	100	84 00	\$15 00
Claresholm.	103	2	46	103 00	...
Milnerton.	91	...	...	...	...
Irvine.	81	2	33	81 00	...
Taber.	81	2	70	81 00	25 00
Innisfree.	104	2	65	104 00	10 00
Sedgewick.	81	2	58	81 00	...
Alix.	129	2	60	129 00	...
Lloydminster.	102	2	59	102 00	...
Gleichen.	92	2	142	92 00	...
Three Hills.					

During the year there have been twelve new societies organized, bringing the total number of agricultural societies and exhibition associations up to forty-three. The Department has experienced difficulty in preventing societies organizing too close to one another. It has been found that when societies are organized at intervals of about ten miles the result is disastrous to both associations should they each attempt to hold a fair. A number of men will belong to both societies. Their interests are divided and naturally they have not the pride in either institution that they would have if they only belonged to one society. The number of entries at both fairs is sure to be small. Three societies have been organized in rural districts, that is in districts removed from the line of railway. It is found that unless there is a village or town to support the society there will be difficulty in financing. The result with these societies has been that they have had great difficulty in paying out enough money in prizes to secure the exhibition grant. Two of the societies out of the three organized have not been able to pay out the required amount, consequently have not been able to participate in the exhibition grant. It would appear that where there is an existing society within reasonable reach of a proposed rural society it would be better for the proposed rural society to join with the one already in existence.

SOCIETIES ORGANIZED IN 1908.

<i>Society</i>	<i>Date</i>	<i>Membership</i>
Daysland.	January 8th.	124
Claresholm.	January 29th.	55
Innisfree.	March 12th.	61
Irvine.	March 12th.	58
Milnerton.	April 15th.	70
Taber.	April 15th.	77
Sedgewick.	June 3rd.	50
Alix.	June 11th.	53

Lloydminster	June 29th.	62
Camrose.	July 31st.	51
Gleichen.	August 20th.	70
Three Hills	August 27th	57

In the year there have been nine seed fairs. The Dominion Seed Branch has attended to the organizing of these fairs and to the supplying of judges, while the provincial department has paid the government grant. These seed fairs have proven of material benefit to the farmers, both by means of the information imparted by speakers who addressed the meetings at the fairs, and also through the exchange of seed. The sample shown by each man must be representative of at least fifty bushels which he has for sale. A man wanting seed can thus secure it by attending the seed fair and buying on sample.

The following is a list of seed fairs held in 1908 with their dates:

Raymond.	January 14.
Cardston.	January 16, 17.
Magrath.	January 14, 15.
Lethbridge.	January 18.
Innisfail.	February 4, 5.
Red Deer.	February 7.
Olds.	February 4.
Lacombe.	February 12.
Edmonton.	February 13, 14.

Horticultural Society.

A horticultural society has been organized in Calgary, and from the report sent in it would appear that a good start has been made.

Stallion Shows.

Spring stallion shows have been held at Okotoks, Olds and Calgary. With the exception of Calgary none of these have assumed very great proportions as yet, but the interest displayed has been encouraging.

Fat Stock Show.

The fat stock show was held in Calgary from May 19th to 22nd. The entries are increasing from year to year, as is also the quality of the stock exhibited. The dressed carcass competition is yearly becoming a matter of more interest. Seeing the animals judged on foot and afterwards seeing the dressed carcasses in competition is proving of great educational value. Mr. Duncan Anderson placed the awards at the fat stock show and also at the bull sale held by the Cattle Breeders' Association.

Poultry Shows.

Poultry shows have been held at the following places:

Lethbridge.	February 25 and 26.
Edmonton.	March 3, 4, 5 and 6.

The Edmonton and Lethbridge shows have each had a very large number of entries, and the interest is greatly increasing from year to year.

Field Grain Competitions.

The following is a list of societies which held field grain competitions in 1908:

Cardston, Magrath, Lacombe, Lethbridge, Macleod, Medicine Hat, Raymond and Leduc.

This is a much more accurate method of determining the quality of grain than is the judging of a sample at the seed fair. In a field of ten acres, the amount usually shown, there may be weed seeds found of a very injurious nature which might be entirely absent in a small sample of threshed grain taken from the same field. Again, it is possible to determine the character of the head, the strength of the straw, the earliness of maturity and many other factors which are of prime importance in determining the desirability of grain for seed. It is hoped that a larger number of the societies will participate in this work during the coming season.

Good Farms Competition.

The Red Deer Exhibition Association held a good farms competition in July. There were five competitors. The awards were placed in the following order:

Henry Jamieson	First.
G. A. Sharman	Second.
Geo. A. Root	Third.
H. Hepworth	Fourth.
Andrew Trimble	Fifth.

The following is a copy of the score card used in placing the awards:

Approach from road to buildings	2
State of repair of farm buildings and fences	5
Internal arrangements of buildings suitable for purpose intended	4
General order and cleanliness of barnyard	5
General order and cleanliness of house and yard	5
Effort to produce shelter by arboriculture	5
Facilities for watering stock	3
Condition of all stock	14
Evidences of grading up stock	15
Variety and quality of crops	14
Cultivation of land	10
Freedom of farm from noxious weeds	18
	100

Judges: Messrs. C. M. McRae, Ottawa, and Geo Hutton, Lacombe.

From the interest manifested in this work it is evident that such competitions are both popular and beneficial.

On the 9th of December the executive of the Alberta Fairs' Association met at Calgary, when a sample set of account books was submitted to them by the Department for approval and for recommendations. The object of the Department in this matter is to facilitate the work of the secretaries of the agricultural societies and exhibition associations. Heretofore, the secretaries have found the work of keeping books a very difficult one. Many of them have not had experience in either bookkeeping or exhibition work. In consequence of this the Department has had a great deal of trouble with the annual returns submitted by the societies. In most cases it requires a great deal of correspondence, and sometimes a personal

visit, before the returns are satisfactory. It is hoped that when this set of books is used by the secretaries they will not only find the work much easier, but the returns sent to the Department will not be so difficult to deal with. The set of books includes cash book, prize record book and entry book, and an annual report book.

H. A. CRAIG,
Superintendent of Fairs and Institutes.

8.—REPORT OF LIVE STOCK COMMISSIONER.

SIR,—On May 20th, 1908, I was appointed to the position of provincial live stock commissioner, my duties being particularly to assist the farmers and small stockmen in marketing their live stock; to ascertain as far as possible the difficulties in the way of small stockmen and assist in removing them; to strive to improve live stock conditions in Alberta.

The method of presenting the general subject of live stock conditions in Alberta is under the divisions of horses, cattle, sheep and swine.

HORSES.

The year 1908 was a favourable one for the horse breeders of Alberta. The winter of 1907-8 was mild and horses generally came through it in good condition. More than the average percentage of foals was saved, this is especially true in the ranching districts. There was a heavy rainfall during the early part of the season; this insured an abundance of pasture and hay for the autumn and winter months and the condition of both farm and range animals at the close of 1908 may be described as excellent.

There were no epidemics among the horses of Alberta in 1908. During the months of January and February there were a number of cases of influenza particularly among stabled animals, but the rate of mortality was not high. Serious losses were occasioned to some of the ranches in the southern part of the province by an outbreak of "Maladie du coit" in their herds, but owing to the vigorous methods adopted by the veterinary inspectors of the Dominion Government this disease has been practically eradicated. There were about fifty horses destroyed because of glanders.

Loco Poisoning.

Several losses were also sustained in certain portions of the foot-hills because of loco poisoning. A personal examination of some of the loco affected districts was made and specimens of the weed pointed out by the stockmen as being the cause of difficulty were forwarded to the chief weed inspector for identification. Although some six specimens were thus collected only one was classed as poisonous and as having an injurious effect upon live stock; this was described as *Oxytropis Lamberti* or loco weed. An extended correspondence was instituted with a view to ascertaining the deleterious properties of this weed and the remedy if any for the ailments produced by it. From the director of the experiment station at Washington, D.C., U.S.A., the following information was obtained:

"1. It has been clearly proved that two of the so called loco weeds *Aragallus Lamberti*, commonly known as "white loco" or "rattle weed," and *Astragalus Mollissimus*, commonly known as "purple loco" or "woolly loco," are distinctly poisonous to horses, cattle and sheep, when eaten in any considerable amount. There is reason to think that other related plants are poisonous, but the work on this subject is still incomplete.

"2. The poisonous effects of these two plants are due to the presence of barium, which is taken up by the plants from the soil.

"3. The easiest method of eradicating these loco weeds is by digging. Contrary to the opinion quite common in the west, although the plant is a perennial,

it does not grow from the cut root provided the cut is below the crown of buds. It is comparatively easy to kill the plant by means of the spade and the labour of clearing a large number of acres is not excessive. This method of eradication seems to be perfectly feasible when the land is in the form of fenced pastures. At the present time we know of no good method of eradicating the weeds from the open plain.

"4. In treating animals which become poisoned by eating loco weeds, the first essential is to remove them from the possibilities of getting more of the weeds. They should be fed on nutritious food, and it is important that this food be of a laxative character. For this reason, alfalfa is one of the best foods for locoed animals. Many of them will recover if nothing more is done than to remove them from loco, and feed them in this manner. It has been found, however, that this recovery is rendered more sure and speedy if in addition to care in the use of food certain remedial measures are used.

"Cattle should be given, hypodermically, strychnine, in daily doses not exceeding 3-20 to $\frac{1}{4}$ of a grain. If the strychnine is given calves the dose should be even smaller than this. This treatment should be extended ordinarily not less than thirty days, although beneficial effects may result from treatment during one or two weeks.

"Horses should be given Fowler's solution in daily doses of from four to six drachms. This treatment, too, should ordinarily be continued for not less than one month. The Fowler's solution is most conveniently given in the grain with which the animals are fed.

"Where it is deemed worth while to treat sheep, strychnine will also have a beneficial influence upon them. The dose of strychnine for sheep should not exceed 1-20 of a grain."

* This information was supplied to the ranchmen interested by means of a circular letter.

Weak Foals.

In certain portions of the province, especially those in which the soil contains a high percentage of humus, difficulty has been experienced by some in getting mares in foal and others in saving the foal after it has been dropped. The characteristic symptom of such cases is weakness and lack of animation; these losses were more numerous among farm mares than among range animals. Though it is impossible to state definitely the cause of these difficulties there is reason to believe that it is owing to a deficiency of mineral matter in the soil and water of the districts in which the difficulty occurs, and arrangements are being made to have a number of experiments conducted by horse breeders who have suffered loss on this account, with a view to ascertaining the most effective method of supplying these mineral ingredients artificially.

The price of horses during 1907 was approximately 25 per cent. less than in 1908. It is, however, remunerative to the horse breeder and is yet very close to the outside limit of what can be paid for this class of animals for farm or purely industrial purposes.

CATTLE.

The outstanding features of the cattle industry in Alberta to-day are the rapidly increasing number of animals which are being fed during the winter months for spring delivery, and the brisk demand for special dairy stock:

It is estimated that the number of animals being fed for May and June delivery, and those being hay fed for delivery in July is between 25 per cent. and 35 per cent. greater than in 1908. This condition has been brought about by a variety of circumstances, among which may be mentioned the campaign of education which has been carried on for several years showing the necessity of work of this kind; the improved equipment of the average stockmen

resulting from his improved financial condition; the price realized for fat steers during the spring of 1908, reaching in some instances as high as five cents per pound even on small lots; and the prospect of equally good or perhaps better prices during the spring of 1909.

The spaying of heifers is somewhat general in certain localities. Where it is practised on the inferior animals with a view to improving the general character of the herd it is to be commended. In some sections desire to engage exclusively in winter feeding is given as the reason but in most instances a shortage in pasture because of the increase in settlement is the reason assigned.

Although Alberta cattle have won an enviable reputation because of their excellence, their freedom from disease, and the weight of their hind quarters in proportion to their fore quarters there is still room for a great deal of improvement in the cattle produced in this province. In those districts which are noted for large individual herds running up into the thousands, better care during the winter months would do much toward producing a smoother animal and one thicker fleshed on the back than the average of the animals coming from those districts. In the districts having small herds of perhaps one hundred or less, a campaign of education is needed to impress upon the stockmen the importance of using good sires and the danger of inbreeding. The highest form of beef production in Alberta is attained in those districts in which the individual herd is sufficiently large to cause the stockman to realize the importance of using good sires and to avoid inbreeding, and sufficiently small to make it possible for him to properly care for his animals during the winter months.

The total number of beef cattle marketed in Alberta during 1908 cannot be given with exactness. The Canadian Northern Railway Company reports having received at Alberta points 3,420 head. The Canadian Pacific reports 104,765 head, classified as follows:

Export	61,810
Winnipeg and east.	17,270
Coast	9,384
Butchers	10,430
Feeders	4,539
Stockers	1,332

There is a tendency among the stockmen generally to go out of business as soon as a considerable amount of the land about them has been filed on by homesteaders. As a great deal of this land usually falls into the hands of speculators within a short time after the settler proves up, there are in many parts of the province large areas in which the owners of the land make no effort to cultivate it, the stockmen have withdrawn their herds, and the settler is unable to utilize the pasture which is available. A little more tenacity on the part of the stockmen would add much to the annual output of beef in this province.

As was stated at the outset, the price of cattle during 1908 was generally good, ranging during the spring and early summer from four to five cents per pound according to the quality of the animals and the number for sale. As the season advanced prices declined, until in September export cows sold for $2\frac{1}{2}$ cents per pound and export steers for from 3 to $4\frac{1}{2}$ cents per pound according to quality and number for sale, while butchers' steers brought from $2\frac{3}{4}$ cents to $3\frac{1}{2}$ cents per pound; one influence which contributed to this depression in prices was the difficulty in getting shipments forwarded, and the uncertainty of consignments reaching the sea-

board in time to connect with the steamers on which space had been contracted.

During the early portion of 1908 there developed a lively interest in and a demand for the establishment of a chilled meat trade to be conducted under some kind of government supervision. This demand came chiefly from among the farmers and small ranchers, which fact is to be accounted for partly because these classes have been at a disadvantage in marketing their export stuff and partly because diminishing pasturage has made it difficult to hold steers until they are past four years old before marketing and has caused a desire to market them at three years of age. Animals of this class while too light for exporting on foot are exactly the class required for the dressed meat trade.

A meeting of farmers was called in the Provincial Government tent on the Dominion Exhibition grounds in Calgary, July, 1908, with a view to formulating a definite plan for attaining the end sought. The Hon. W. T. Finlay, Minister of Agriculture, W. F. Puffer, M.P.P., and the provincial live stock commissioner were present at this meeting.

A committee was appointed consisting of Mr. Frank Whiteside, president of the Central Alberta Stock Growers' Association; Mr. R. G. Matthews, secretary of the Western Stock Growers' Association; Mr. E. J. Fream, secretary of the Alberta Farmers' Association, and Mr. Jas. Walters, president of the Cattle Breeders' Association; to this number was added Mr. E. G. Palmer, chilled meat expert, from Edmonton (formerly from Australia and New Zealand). Mr. E. J. Greenstreet, architect and designer of packing plants, was elected secretary-treasurer. The committee was instructed to investigate the export meat trade, both chilled and on foot, and submit their report to the Minister of Agriculture for the province, to be forwarded by him to the Hon. Sidney Fisher, Minister of Agriculture, at Ottawa. This committee is expected to submit its report in the near future.

Prairie fires caused some damage to stockmen during 1908. Probably the most serious for the year was that which burnt the country from township 27 to 33 and from range 10 to range 20, west of the fourth meridian, about one hundred and fifty tons of hay were burned, and about a dozen horses were reported killed; the most serious damage resulting from it was the destruction of the winter range.

For several years there has existed on some of the ranges numerous cases of mange. The Dominion Government early in 1908 announced its intention of taking vigorous measures with a view to stamping out the disease. Mr. Duncan Anderson, of Orillia, Ont., was employed to address the stockmen on the importance of cleaning up their herds, and T. M. Morgan, of Toronto, was employed to explain the regulations and was given charge of the enforcement of them. There are evidences that the work has been thoroughly done and it is probable that large districts included in the mange areas in 1908 will be thrown open as clean in 1909.

Brands.

Complaint has been made by stockmen regarding the method of stock inspection at loading points, and it has been suggested that each bill of lading should be accompanied with an affidavit of ownership or bill of sale to the shippers, together with the brands represented in each consignment and the number of animals carrying

each brand; that a provincial stock inspector be appointed at Winnipeg, Calgary and Edmonton.

A request has also been received for a more thorough inspection of all hides than now obtains. It has been urged that regular inspection of all hides sold at various tanneries in the province should be made, and that common carriers should be forbidden to receive hides for shipment out of the province unless accompanied by a certificate of inspection by a duly appointed inspector.

Dairy Cattle.

During the Dominion Exhibition at Calgary about twenty head of pure bred Jersey cattle were purchased by Alberta citizens from eastern exhibitors. During the autumn Mr. Julien Sharman, of Red Deer, imported a car load of Jerseys from Ontario.

On December 1st, Mr. J. G. Clark, of Gilliston, held a public sale of pure bred Ayrshire cattle at Lacombe. The highest price paid at this sale was \$95.00; the lowest price \$65.00 and the average price was \$78.00 per head.

On December 29th, 1908, Mr. A. H. Trimble, of Red Deer, offered for sale at public auction a car load of Ayrshire cattle, males and females. These animals were purchased in Ontario and Quebec. The highest price realized at this sale was \$115.00; the lowest \$52.00 and the average price was \$76.00 per head.

SHEEP.

The year 1908 was favourable to sheep growers. More than the usual number of lambs were saved. There were no epidemics among the herds, though many report losses from the coyotes; catarrh followed by swelling at the throat occasioned some loss. Climatic conditions were generally favourable. A severe snow storm occurred on October 20th which caused the death of a number of animals. The top price of wool was 11 cents per pound in 1908 as against 15 cents per pound the preceding year; the price of mutton was practically the same in 1908 as in 1907. About 90 per cent. of the sheep in Alberta are to be found south of township 25 and consists almost entirely of Merino crosses. The secretary of the Sheep Growers' Association has declared his intention of instituting a vigorous campaign of education in favour of the sheep industry and it is to be hoped that he may succeed in arousing renewed interest in this branch of live stock production.

SWINE.

That the farmers of Alberta are favourably disposed to the swine industry is evidenced by the fact that they have always shown a readiness to engage largely in it whenever there is a good prospect for remunerative prices, though past experience has caused them to be on the alert and to be prepared to drop out at the first indication of a declining market. During the year of 1908, there was a tendency toward a greater steadiness both in the supply and in the prices paid. On the whole the year was a prosperous one for swine breeders. Most of the litters were saved and spring farrows are now coming to market. The quality is generally good.

There is room for much educational work among the swine breeders. Instruction in breeding, feeding and wintering and the

importance of summer pasturing is much needed. There were no epidemics among the hogs in 1908. A number of animals were condemned at the various abattoirs on account of pneumonia, tuberculosis and measles. These ailments are preventable. The first is the result of improper housing and allowing hogs to bury themselves in old stack bottoms that are heating; the last is caused by eating the larvæ of the human tape worm and it may be taken as an evidence that the animals are being kept in unsanitary conditions. Reliable data regarding the number of hogs produced and marketed in Alberta during 1908 are not available. The following has been collected and are an evidence of the magnitude to which this industry will attain once there is confidence in the stability of the market, The C.P.R. Co. report having handled 48,618 hogs in 1908 as against 24,435 in 1905. The C.N.R. Co. report for the year 1908, 16,600 head. In addition to these a large number were delivered direct at the packing houses from the farmers' wagons.

W. F. STEVENS,
Live Stock Commissioner.

9.—REPORT OF THE PROVINCIAL HEALTH OFFICER.

SIR.—I beg leave to submit my annual report bearing on public health for the year ending December, 1908.

I.—PUBLIC HEALTH.

During the year there were 2,969 cases of contagious and infectious diseases throughout the province.

Contagious and Infectious Diseases.

Smallpox. —During the year smallpox has been very prevalent, entailing a great deal of expense to the Government and the municipalities, and previous to the passing of the regulations governing smallpox and chickenpox, formulated by the provincial board of health, in December, was with great difficulty checked both in the municipalities and the outlying districts, owing to the inadequacy and vagueness of the Act governing methods of quarantine, etc. It was not until the provincial board of health obtained authority from the Lieutenant Governor in Council to bring these regulations into effect that good results began to declare themselves, and systematic methods in conducting quarantine, both on the part of the Government officials working with disease in the outside districts, and of the medical health officer in municipalities, changed the aspect of the outbreaks entirely.

Previous to the passing of these regulations the medical health officer had no definite plan of quarantine to proceed upon and in outlying districts, in which villages were more or less concerned, a great deal of confusion existed in dealing with outbreaks of the disease.

The disease broke out in epidemic form in the following places: Calgary with 107 cases, Edmonton 16 cases, Lacombe having 6 cases. There were also serious epidemics in the rural districts of Calgary, Claresholm, Fort Saskatchewan, Innisfail, Stettler, Vermilion and Wetaskiwin, and less important outbreaks in several other localities.

I am glad to be able to report that to date we are experiencing but little difficulty with regard to quarantine in connection with this disease, owing to the thoroughness of the regulations which now govern the methods of dealing with outbreaks, especially as it relates to villages, where the appointment of a medical health officer is not compulsory and is not usually made until a serious condition arises.

Vaccination.—In consequence of smallpox breaking out in various parts of the province, one good effect produced upon the inhabitants of this province is the great amount of vaccination which has taken place as the result of such outbreaks.

The writer has repeatedly brought it to the attention of the provincial health board that it is a *sine qua non* if smallpox in this province is to be stamped out some system must be devised for compulsory vaccination. In my opinion there is but one method by which this can be done and that is that a law be passed that every child entering any school (public or otherwise) shall be vaccinated

or show proof of previous vaccination before being allowed to enter any such school.

Under the existing school laws of the province attendance at school of all children is compulsory; therefore, provided some such system were put in force, the full control as to vaccination of all persons in the next few years, whether native born or immigrant, would be placed where it would have most effect and be best and most easily regulated.

The carrying out of such a plan will necessitate considerable outlay of money but the results would show that in a few years an enormous amount of money would be saved to the people, to which must also be added the saving of lives which may otherwise be endangered, should this dread disease be allowed to exist.

I am glad to report that the municipality of Edmonton has for the past year put into force this system of compulsory vaccination of school children with very good results.

Scarlet fever has been prevalent in all of the larger cities and towns and indeed throughout the rural districts. Insufficient preventative measures and carelessness on the part of parents and guardians in isolating cases of this disease from other members of the family in their own homes, and undue haste in allowing convalescent patients to be discharged from quarantine and to mingle with others, have been the means of this disease spreading and involving the great number that have been reported at this office this year.

The old idea that it is necessary that children should have scarlet fever and other kindred diseases, I regret to state, exists to a very large degree in this province.

The factor of insufficient accommodation facilities for isolation in the houses of homesteaders when a case of scarlet fever and other communicable diseases break out, is to a very great degree responsible for this disease being so widespread and is one which under present circumstances is with the greatest difficulty combatted by the physicians practising within this province.

Diphtheria has been prevalent particularly in Calgary, Edmonton, Lethbridge and Pincher Creek and in the districts of Claresholm, Didsbury, Pincher Creek, Taber, Wetaskiwin. Great difficulty was experienced in controlling and stamping out an outbreak of diphtheria amongst the Galicians and Ruthenians in the vicinity of Mundare.

Your attention has been previously drawn to the difficulties in dealing with these people in my remarks upon death under vital statistics.

Measles.—A serious epidemic of this disease appeared in parts of the province, noticeably at Cardston, Edmonton, High River, Macleod, Raymond and Taber; whilst the rural districts of Claresholm, High River, Macleod and Taber also suffered.

Typhoid fever.—Owing to the rapid growth of the municipalities and villages in many cases sanitation has failed to keep abreast of the increase in population, and the inevitable penalty—typhoid fever has appeared, with its heavy toll in lives and money. This has also been the case in many mining camps and railway construction camps.

In addition to the above there have been outbreaks of chicken-pox, mumps and whooping cough in various localities in this province.

Herewith are appended tables showing that a total of 2,969 cases of contagious and infectious diseases were reported during the year. To this is also added a table giving the mortuary statistics for the year, arranged according to the Bertillion system.

CHICKENPOX.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary.....	27	40	4	2	9	1	5	6	8	2	21	4	4	1	5	13	44	3	2				67
Cardston.....																							
Clareholm.....																							
Didsbury.....																							
Edmonton.....	6	10	5	3	4	2	1	1								3	8	2	3				16
Fort Saskatchewan.....																							
High River.....																							
Innisfail.....	2	4		1		2								3	1	2	2	1					6
Lacombe.....																							
Leduc.....																							
Lethbridge.....	4	2	1		2		2				1				1		3	2					6
Macleod.....																							
Medicine Hat.....	3		1	1	1				1								3						3
Okotoks.....																							
Olds.....	5		3					2							1	2	2						5
Pincher Creek.....																							
Ponoka.....																							
Raymond.....																							
Red Deer.....																							
St. Albert.....																							
Stettler.....																							
Strathcona.....																							
Taber.....																							
Vegreville.....																							
Vermilion.....																							
Wetaskiwin.....																							
Totals.....	47	56	14	6	16	5	8	9	9	2	22	4	4	4	8	20	62	8	5				103

DIPHTHERIA.

(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary.....	11	15	2	1	1	3	1	1	1	1	6	3	3	5	1	4	5	7	7	1	1	1	26
Cardston.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Clareholm.....	2	2	..	..	4	..	..	..	..	..	..	..	..	1	..	3	1	1	..	..	..	..	1
Didsbury.....	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Edmonton.....	13	13	1	1	10	2	3	3	1	1	1	2	2	2	1	2	8	10	5	..	..	..	26
Fort Saskatchewan.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
High River.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Innisfail.....	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	2
Lacombe.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leduc.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lethbridge.....	3	8	1	1	1	1	1	1	1	1	1	2	2	1	..	1	5	2	2	1	..	..	11
Macleod.....	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	1
Medicine Hat.....	14	7	..	..	..	..	1	4	2	4	5	1	1	4	2	1	17	1	1	..	..	..	21
Okotoks.....	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	1	1	..	..	..	1
Olds.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pincher Creek.....	9	1	1	..	..	8	..	1	..	..	..	..	..	1	..	4	1	3	2	..	..	..	10
Ponoka.....	..	1	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1
Raymond.....	2	2	2	..	..	2	..	..	..	..	..	..	..	..	..	1	3	1	..	..	..	..	4
Red Deer.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Albert.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stettler.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Strathcona.....	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Taber.....	1	1	1	..	..	..	1	1	..	1	..	..	..	..	1	..	..	..	1	..	..	..	1
Vegreville.....	2	2	..	..	2	2	..	2	..	..	..	..	..	..	..	..	2	2	1	..	..	..	2
Vermilion.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wetaskiwin.....	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Totals.....	61	55	8	3	15	17	9	10	6	5	13	8	8	14	6	17	44	26	20	2	1	1	116

MEASLES.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.....	19	16	2	2	7	9	7	1	1	4		2			5	1	19	6	4				35
Cardston..	120	118				235	34								5	63	146	21	3				238
Clareholm	24	22	7	7	3	1			3					1	3	5	31	5	2				46
Didsbury	1																						1
Edmonton..	83	103		7	17	58	46	23	23	6		1		5	13	60	77	20	15	1			186
Fort Saskatchewan	2	2			1			1	2							1	1	1		1			4
High River..	36	39	3	2	46	15	8	1							3	14	47	7	4				75
Innisfail																							
Lacombe..	1	1							1	1						2							2
Leduc..	1							1								1							1
Lethbridge	10	4	1	1	2			4		1		1		5		5	4	3	2				14
Macleod	49	48	3	3	24	70									3	30	61	2		1			97
Medicine Hat		7			1			1	3	1	1				3	1	1	2					7
Okotoks																							
Olds		1							1								1						1
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert	39	33	6	11	7		8					8	27	5	6	19	36	6	5				72
Stettler		1			1														1				1
Strathcona																							
Taber	73	72	31	110	4										10	33	85	11	5	1			145
Vegreville	2	1															2	1					3
Vermilion	1																	1					1
Wetaskiwin	22	24		1		2		16	27						1	8	35		2				46
Totals	483	492	46	140	109	160	305	82	64	13	1	12	27	16	52	243	546	86	44	4			975

GERMAN MEASLES.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary...																							
Cardston																							
Claresholm...	1	2			3											1	1						
Didsbury																							
Edmonton.....	2	1			1				1								2						
Fort Saskatchewan.																							
High River.....																							
Innisfail.....																							
Lacombe.....																							
Leduc.....																							
Lethbridge.....																							
Macleod.....																							
Medicine Hat.....																							
Okotoks.....																							
Olds.....																							
Pincher Creek..																							
Ponoka.....																							
Raymond.....																							
Red Deer.....																							
St. Albert.....																							
Stettler.....																							
Strathcona.....																							
Taber.....																							
Vegreville.....																							
Vermilion.....																							
Wetaskiwin.....	1																1						1
Totals	4	3			4	1		1	1						1	1	4						7

SCARLET FEVER.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.....	49	25	11	6	3	3	1	4	1	2	6	15	13	9	1	15	38	12	8	.....	.....	.....	74
Cardston.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clareholm.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Didsbury.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edmonton.....	16	13	2	2	4	1	1	6	1	5	4	2	1	1	1	10	12	5	1	.....	.....	.....	29
Fort Saskatchewan.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	4
High River.....	.....	4	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	1	.....	.....	.....	.....	4
Innisfail.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lacombe.....	6	4	.....	.....	.....	.....	5	4	.....	1	.....	.....	.....	.....	1	7	2	.....	.....	.....	.....	.....	10
Leduc.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lethbridge.....	8	11	1	1	.....	.....	2	1	2	1	.....	.....	6	4	.....	3	15	1	.....	.....	.....	.....	19
Macleod.....	16	12	.....	.....	.....	.....	.....	2	.....	7	.....	12	9	.....	2	3	19	2	1	1	.....	.....	28
Medicine Hat.....	4	3	.....	1	1	1	1	4	.....	.....	.....	.....	.....	.....	.....	1	6	.....	.....	.....	.....	.....	7
Okotoks.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Olds.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pincher Creek.....	4	4	.....	.....	5	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	2	4	1	1	.....	.....	.....	8
Ponoka.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Raymond.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Deer.....	5	1	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	1	2	2	1	1	.....	.....	.....	6
St. Albert.....	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2
Stettler.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Strathcona.....	3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1	.....	.....	.....	.....	.....	7
Taber.....	13	14	5	2	3	6	2	9	.....	3	1	.....	.....	.....	.....	5	17	4	1	.....	.....	.....	27
Vegreville.....	1	1	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	5	1	1	.....	.....	.....	.....	2
Vermilion.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wetaskiwin.....	4	2	2	2	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	3	1	.....	1	.....	.....	6
Totals.....	133	102	24	14	15	16	14	39	9	15	12	33	30	14	6	57	127	28	15	2	.....	.....	235

SMALLPOX.

(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary...	62	45				2	3			1	2	2	4	27		4	28	33	40	2			107
Cardston...																							1
Clareholm...	1					1													1				
Didsbury...																							
Edmonton...	13	3	1			3	8	1		2			1	1			1	6	7	2			16
Fort Saskatchewan...																							
High River...																							
Innisfail...																							
Lacombe...	4	2											1	1	1	1	1	1	3				6
Leduc...																							
Lethbridge...	2	1				1								1				2	1				3
Macleod...																							
Medicine Hat...	1	1				1								1									2
Okotoks...	1																	1	2				1
Olds...																							
Pincher Creek...																							
Ponoka...	1						1											1					1
Raymond...																							
Red Deer...																							
St. Albert...																							
Stettler...																							
Strathcona...																							
Taber...																							
Vegreville...	1	1											2					1	1				2
Vermilion...																							
Wetaskiwin...																							
Totals...	86	53	1	1		8	12	1		4	8	26	49	30	1	4	30	45	55	4			139

TYPHOID FEVER.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary..	29	7	..	1	5	..	..	1	5	3	4	8	3	6	..	15	13	7	13	7	1	..	36
Cardston ..	5	2	..	..	..	..	..	1	..	1	2	3	..	..	..	2	..	..	..	..	..	..	7
Clareholm ..	2	4	..	..	..	..	..	..	..	1	3	3	..	..	..	..	1	1	3	2	..	..	6
Didsbury ..	115	36	17	4	11	4	9	3	14	10	..	47	12	20	..	3	8	50	82	7	1	..	151
Edmonton ..	2	2	1	2	2	..	..	1	..	..	..	1	..	..	..	1	1	2	2	..	..	..	4
Fort Saskatchewan	2	1	..	1	1	..	..	..	..	..	1	..	..	..	..	2	1	1	2	..	..	..	3
High River ..	2	1	..	1	1	..	..	..	..	..	1	..	..	..	..	2	1	1	1	..	..	..	3
Innisfail..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Lacombe..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Leduc.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lethbridge..	19	3	..	..	2	..	..	..	..	9	7	1	2	1	..	5	7	10	..	..	..	..	22
Macleod.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medicine Hat.	64	22	..	..	2	..	..	3	3	36	22	17	3	..	..	2	15	29	37	3	..	..	86
Okotoks....	7	..	..	..	..	..	..	..	..	..	..	5	2	..	..	..	..	..	7	..	..	..	7
Olds.....	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	2	1	..	..	..	3
Pincher Creek	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ponoka....	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1
Raymond.....	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	2	3	..	..	..	6
Red Deer...	4	2	..	..	..	..	..	..	..	1	..	5	..	..	..	..	1	2	..	..	..	..	..
St. Albert ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stettler ..	8	3	..	..	..	..	..	..	1	..	9	1	..	..	..	2	5	3	3	1	..	..	11
Strathcona ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taber.....	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Vegreville ..	11	3	..	..	1	..	..	..	3	2	5	3	..	1	..	..	6	6	6	2	..	..	14
Vermilion..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Wetaskiwin.	..	3	..	1	..	..	..	..	1	1	..	..	..	..	..	1	1	1	1	..	..	..	3
Totals.	273	90	18	7	23	5	9	9	28	66	53	95	22	28	..	6	54	117	168	17	1	..	363

WHOOPING COUGH.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary.																							
Cardston.																							
Clareholm																							
Didsbury.																							
Edmonton	3	1	2	1	1	1										1		3					
Fort Saskatchewan																							
High River.																							
Innisfail.																							
Lacombe																							
Leduc.																							
Lethbridge																							
Macleod.																							
Medicine Hat	1							1									1						1
Okotoks.																							
Olds.																							
Pincher Creek																							
Ponoka.																							
Raymond																							
Red Deer																							
St. Albert.																							
Stettler.																							
Strathcona																							
Taber.																							
Vegreville		2																					2
Vermilion.																							
Wetaskiwin																							
Totals	4	3	2	1	1	1	1	1	2							3		4					7

TUBERCULOSIS.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE							TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59	60-69		70-ov.
Calgary.....																							
Carlston.....																							
Claresholm.....																							
Didsbury.....	4	2	1			1		2	2									2	3	1			
Edmonton.....																							
Fort Saskatchewan.....																							
High River.....																							
Innisfail.....																							
Lacombe.....																							
Leduc.....																							
Lethbridge.....	3	2	1							1	1	1		1			1	3	1				5
Macleod.....																							
Medicine Hat.....	1	1		2																			
Okotoks.....	1	1											2										2
Olds.....																							
Pincher Creek.....		2										1	1				1	1					2
Ponoka.....																							
Raymond.....																							
Red Deer.....																							
St. Albert.....																							
Stettler.....																							
Strathcona.....																							
Taber.....																							
Vegreville.....	1																				1		1
Vermilion.....																							
Wetaskiwin.....																							
Totals.....	10	8	2	2		1		2	2	1	2	2	3	1		1	6	9	2				18

ERYSIPELAS.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary.....																							
Cardston.....																							
Claresholm.....																							
Didsbury.....		3																					
Edmonton.....	5																						
Fort Saskatchewan.....																							
High River.....																							
Innisfail.....																							
Lacombe.....																							
Leduc.....																							
Lethbridge.....																							
Macleod.....																							
Medicine Hat.....		2																					
Okotoks.....																							
Olds.....																							
Pincher Creek.....																							
Ponoka.....																							
Raymond.....																							
Red Deer.....																							
St. Albert.....																							
Stettler.....																							
Strathcona.....																							
Taber.....																							
Vegreville.....																							
Vermilion.....																							
Wetaskiwin.....																							
Totals.....	5	5	1		1		2	1	1			2	2	1	1	3	1	1	1	2	1		10

CHICKENPOX.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL			
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.	
Calgary...	1	1			2												1			1				2
Cardston ..																								
Clareholm ..																								
Didsbury...																								
Edmonton ..																								
Fort Saskatchewan																								
High River ..																								
Innisfail ..		1		1													1							1
Lacombe ..	1	1															1							2
Leduc.....																								
Lethbridge ..																								
Macleod ..																								
Medicine Hat																								
Okotoks ..																								
Olds ..	2	1			1				1	1								2						3
Pincher Creek																								
Ponoka ..																								
Raymond ..																								
Red Deer ..																								
St. Albert ..																								
Stettler ..																								
Strathcona ..																								
Taber.....	2	2						4									1	3						4
Vegreville ..																								
Vermilion ..	8	9	16				1											15	2					17
Wetaskiwin ..																								
Totals.....	14	15	16	1	3		1	4	1	1	2				1	3	22							29

DIPHTHERIA.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL			
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-84	
Calgary	6	7			3	2	7	1								1	2	7	2	1				13
Cardston																								
Clareholm																								
Didsbury											2		6	9	2	5	3	3	2	3				18
Edmonton	9	9						1								1	1	1	1	1				3
Fort Saskatchewan	1	2																						1
High River	1										1			2										
Innisfail																								
Lacombe																								
Leduc	5	4							3	6						1	6	2	2					9
Lethbridge	5	3			7		1									2	4	4	2					8
Macleod	2									1														1
Medicine Hat		2																						
Okotoks	1	2														1	1	1	1	1				1
Olds	1	5	4		3	3	1	1								1	2	9	2	1				3
Pincher Creek	9																							1
Ponoka	1					1																		
Raymond																								
Red Deer		1																						
St. Albert	1	2									2						1	3						1
Stettler																								
Strathcona	1	1						1													1			2
Taber	9	9	1				17										6	12						18
Vegreville	4	4				3	5										2	6						8
Vermilion																								
Wetaskiwin	7	6	3	1		1				4							5	4	1	3				13
Totals	63	57	10	1	6	13	12	28	3	11	5		16	15	8	28	57	16	10	1				120

MEASLES.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.....	1	1			1				1						4	8	2						2
Cardston.....	2			1	1													24					2
Clareholm.....	26	23		2	2	1		19		13	12									4			2
Didsbury.....	4	7					5	1			1	1	2	1				5	3	1			3
Edmonton.....	2	1				2			1							2		13	5	2			11
Fort Saskatchewan	13	9	2		13	7										12							22
High River.....																							
Innisfail.....																							
Lacombe.....																							
Leduc.....	2	3					5								1	3	1						5
Lethbridge.....	2	2						4							2	2	2						4
Macleod.....	10	12			7									15	3	9	10						22
Medicine Hat.....																							
Okotoks.....	1	1		1					1							1							1
Olds.....	2	6					6	1	1							1	3	1		2			8
Pincher Creek.....					1		2									3							4
Ponoka.....	2	1						1	2									3					3
Raymond.....	5	3	3	5												1	6	1					8
Red Deer.....	1	1					1									1							1
St. Albert.....	1	1					2										2						2
Stettler.....																							
Strathcona.....																							
Taber.....	16	13	3	19	7											7	14	7		1			29
Vegreville.....	5	5					6	4								3	7						10
Vermilion.....	1					1													1				1
Wetaskiwin.....	9	9					2	13	2		1					7	9	2					18
Totals.....	194	101	8	29	32	11	29	43	7	13	14	1	2	16	8	51	103	32	11				205

GERMAN MEASLES.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE							TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59	60-69		70-ov
Calgary																							
Cardston																							
Clareholm																							
Didsbury	3	9			5	3	2	1								1	4	4					
Edmonton	1	2								3						1	1		1				
Fort Saskatchewan																							
High River																							
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka	1	1				2										1	1						
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	5	11			5	5	2	1		3						3	7	5	1				16

SCARLET FEVER.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	F.	M.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.	6	7	1	4	1			3			1			3	1	10	2						13..
Cardston.																							
Clareholm	5	4		1	1	2			2					3		6	1						9
Didsbury	18	7	6	4	4			8					2		3	16	4	2					25
Edmonton	2	2						3				1				2	2						4
Fort Saskatchewan	2	2														1	1						4
High River	3	2	3	1							1					2	3						5
Innisfail																							
Lacombe	7	4					1							1		3	7	1					11
Leduc	1	5					2						4			2	2						6
Lethbridge	2	8	2										1			4	8	1					10
Macleod.	6	5											1			2	7	2					11
Medicine Hat.		1												11			1						1
Okotoks.	3	3	6													3	3						6
Olds	1	2																					3
Pincher Creek	8	7		3	6	1	2	2		3						2	12	1	2				15
Ponoka.																							
Raymond.	2	2											1			1	2	1					4
Red Deer	2	1																					3
St. Albert.	7	6	2		10				1							4	7	1	1				13
Stettler	1																						1
Strathcona																							
Taber.	7	7	3	1	1	2	1	2	1		1			3		3	10	1	1				14
Vegreville	1	3			4												4						4
Vermilion	1	1			2												3						4
Wetaskiwin	6	4			1	3		4		1	1					2	4	1	1	1			10
Totals	91	86	23	14	30	10	11	24	6	4	4	6	18	27	3	32	111	22	8	1			177

SMALLPOX
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-99
Calgary	8	8				7								9			7	3	4	2			16
Cardston																1	2	15	4	6	1		29
Clareholm	9	20	1	10	3	4	11							3				1	1	1			3
Didsbury		3																					
Edmonton																							
Fort Saskatchewan	37	28		44	1		19	1								1	2	30	9	14	7	2	65
High River	2	2												4			1	1	1	1			4
Innisfail	8	3										5	4	2			3	3	4	1			11
Lacombe	3	2						1				1	1	2			2	2	1				5
Leduc																							
Lethbridge	1						1												1				1
Macleod																							
Medicine Hat													1						1				1
Okotoks	1																						
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler	8	5										5	7	1	1		4	5	2	1			13
Strathcona																							
Taber																							
Vegreville	3	1														1							4
Vermilion	18	18	4											1		2	4	10	5	11	4		36
Wetaskiwin	16	15	24								1			6			4	10	8	9			31
Totals	114	105	63	1	54	11	5	30	2	1	1	11	13	28	5	13	82	45	54	18	2		219

TYPHOID FEVER.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary	26	8	5	6	4	2	1	1	1	5	5	3		1		1	5	13	14	1			34
Cardston	1	1						1			1							1					1
Clareholm																		1					1
Didsbury	2	1									1	1	1				1	1	1				3
Edmonton	26				1				4	2	12		2	5			11	13	3	2			26
Fort Saskatchewan	7	5	2		3		2	2	1		1	1	1	2		1	5	8	2				12
High River	4	2	2	1	1				1	1	4					3	1	1	1	1			6
Innisfail	1	1																					2
Lacombe	1								1	1							1						1
Leduc																							
Lethbridge	1										1												1
Macleod	11					1	1		2	1	6						8		3				11
Medicine Hat	1	2			1						2					1	1	1					3
Okotoks	8	1			1					4	4	3	1				6	3					9
Olds	2	2			1						1			1			2	2					2
Pincher Creek	2	1			1												1		1				3
Ponoka	1											1											1
Raymond																							
Red Deer	4	4								1	3	2	1	1		1	5		2				8
St. Albert	3									1	2								3				3
Stettler	7	1					1		1	1	4	1					4		4				8
Strathcona	2	1										3					2	1					3
Taber																							
Vegreville	2	5		3							4						1	2		4			7
Vermilion																							
Wetaskiwin	18	3		1						5	5	2	2	6	1		1	7	12				21
Totals	130	36	7	11	13	3	3	4	10	18	57	16	8	16	1	3	20	67	65	10			196

WHOOPING COUGH.
(Outside Municipalities in the following Districts)

POST OFFICE.	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Calgary.	1																1						1
Cardston.																							1
Clareholm.	1						1																
Didsbury.																							
Edmonton.																							
Fort Saskatchewan.																							
High River.																							
Innisfail.																							
Lacombe.	1	3	4															4					
Leduc.																							
Lethbridge.																							
Macleod.																							
Medicine Hat.																							
Okotoks.																							
Olds.																							
Pincher Creek.																							
Ponoka.																							
Raymond.																							
Red Deer.																							
St. Albert.																							
Stettler.																							
Strathcona.																							
Taber.																							
Vegreville.	2																1	1					2
Vermilion.																							
Wetaskiwin.																							
Totals.	5	3	4				2									1	1	6					8

TUBERCULOSIS.

•(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE							TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59	60-69		70-ov.
Calgary.	9	9	2	2	2	1	2	1	1	2	3		2				6	11	1	1			18
Cardston.																							
Clareholm.	1	1	1	1														2					2
Didsbury.	1	1																1	1	1			1
Edmonton.	3	3			1	1					1						1	2	1	1			4
Fort Saskatchewan																							
High River.	1	1									1									1			1
Innisfail.																							
Lacombe.																							
Leduc.																							
Lethbridge.																							
Macleod.	2	2		1	1													2		1			2
Medicine Hat	1	1	1		1												1						2
Okotoks.																							
Olds.																							
Pincher Creek	1	2						1			1		1						3				3
Ponoka.																							
Raymond.																							
Red Deer	1	1	1							1								1	1				2
St. Albert																							
Stettler.																							
Strathcona																							
Taber.																							
Vegreville	2	1	1	1			1			1							1			2	1		3
Vermilion	1	1																1					1
Wetaskiwin.	6	4	1	1	2			1			2			3			4	5		1			10
Totals.	27	23	7	7	7	2	3	3	1	5	8		3	4			15	27	7	7	1		50

ERYSIPELAS.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary	1																						
Cardston																							
Clareholm																							
Didsbury																							
Edmonton																							
Fort Saskatchewan																							
High River																							
Innisfail		1																	1				
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	1	2	1	1	1									1	1	1			2				3

MUMPS.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary																							
Cardston																							
Clareholm																							
Didsbury																							
Edmonton																							
Fort Saskatchewan																							
High River																							
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler	1						1																
Strathcona	1																						
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	2	1	1				1							2			1	2					3

TOTAL NUMBER OF CONTAGIOUS AND INFECTIOUS DISEASES, WITHIN AND WITHOUT MUNICIPALITIES, OCCURRING DURING THE YEAR 1908.

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Chickenpox—																							
Within Municipalities,	47	56	14	6	16	5	8	9	9	2	22	4	4	4	8	20	62	8	5	...	...	...	...
Without	14	15	16	1	3	...	1	4	1	1	2	...	...	...	1	3	22	3	...	...	...	...	
Total	61	71	30	7	19	5	9	13	10	3	24	4	4	4	9	23	84	11	5	...	...	...	...
Diphtheria—																							
Within Municipalities	61	55	8	3	15	17	9	10	6	5	13	8	8	14	6	17	44	26	20	2	1	...	...
Without	63	57	10	1	6	13	12	28	3	11	5	16	15	16	8	28	57	16	10	1	...	...	
Total	124	112	18	4	21	30	21	38	9	16	18	8	24	29	14	45	101	42	30	3	1	...	...
Measles—																							
Within Municipalities	483	492	46	140	109	160	305	82	64	13	1	12	27	16	52	243	546	86	44	4	...	...	
Without	104	101	8	29	32	11	29	43	7	13	14	1	2	16	8	51	103	32	11	...	...		
Total	587	593	54	169	141	171	334	125	71	26	15	13	29	32	60	294	649	118	55	4	...	...	
German Measles—																							
Within Municipalities.	4	3	...	...	4	1	...	1	1	...	...	...	...	...	1	1	4	1	...	...	...	...	
Without	5	11	...	...	5	5	2	1	...	3	...	...	...	...	...	3	7	5	1	...	...	...	
Total	9	14	...	...	9	6	2	2	1	3	...	...	...	...	...	4	11	6	1	...	...	...	
Scarlet Fever—																							
Within Municipalities	133	102	24	14	15	16	14	39	9	15	12	33	30	14	6	57	127	28	15	2	...	...	
Without	91	86	23	14	30	10	11	24	6	4	4	6	18	27	3	32	111	22	8	1	...	...	
Total	224	188	47	28	45	26	25	63	15	19	16	39	48	41	9	89	238	50	23	3	...	...	
Smallpox—																							
Within Municipalities	86	53	1	...	...	...	8	12	1	4	8	26	49	30	1	4	30	45	55	4	...	...	
Without	114	105	63	1	54	11	5	30	2	1	1	11	13	28	5	13	82	45	54	18	2	...	
Total	200	158	64	1	54	19	17	31	2	5	8	37	62	58	6	17	112	90	109	22	2	...	
Typhoid Fever—																							
Within Municipalities	273	90	18	7	23	5	9	9	28	66	53	95	22	28	1	6	54	117	168	17	1	...	
Without	130	36	7	11	13	3	3	4	10	18	57	16	8	16	1	3	20	67	65	10	...		
Total	403	126	25	18	36	8	12	13	38	84	110	111	30	44	1	9	74	184	233	27	1	...	

TOTAL NUMBER OF CONTAGIOUS AND INFECTIOUS DISEASES, WITHIN AND WITHOUT MUNICIPALITIES, OCCURRING DURING THE YEAR 1908—Continued.

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov
Whooping Cough—																							
Within Municipalities	4	3	2	1	1	1	1	1	2	1	2	2	2	3	1	3	1	4	6	9	2	1	1
Without	5	3	4	1	1	1	2	1	1	1	2	2	3	4	1	1	1	6	15	27	17	1	1
Total	9	6	6	2	2	2	3	2	3	2	4	4	5	7	2	2	10	21	36	19	2	2	
Tuberculosis—																							
Within Municipalities	10	8	2	2	1	1	1	2	2	1	2	2	3	1	1	1	1	6	9	2	1	1	
Without	27	23	7	7	7	2	3	3	1	5	8	2	3	4	1	1	1	15	27	17	1	1	
Total	37	31	9	9	8	3	4	5	3	6	10	4	6	5	2	2	2	21	36	19	2	2	
Erysipelas—																							
Within Municipalities	5	5	1	1	1	1	2	1	1	1	1	2	2	2	1	3	1	1	1	2	1	1	
Without	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	
Total	6	7	2	2	2	2	3	2	2	2	2	3	3	3	2	4	2	2	2	3	2	2	
Mumps																							
Within Municipalities	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	
Without	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	
Total	4	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	2	2	4	2	2	2	
Totals.....	1,662	1,307	254	238	333	270	427	292	152	162	203	216	205	217	105	486	1,282	525	495	70	6	6	2,969

MORTUARY STATISTICS, 1908.

CAUSE OF DEATH	AGE										SEX		NATIONALITY											MONTH												TOTAL																																																
	TOTAL	0 to 1	1 to 4	5 to 14	15 to 24	25 to 44	45 to 59	60 to 69	70 and over	Not Specified	M.	F.	Canadians	Americans	Scottish	Irish	English	French	Germans	Swedes	Norwegians	Austrians	Russians	Galicians	Others	Unknown	January	February	March	April	May	June	July	August	September	October	November	December	Not Specified																																													
GENERAL DISEASES																																																																																				
I.—COMMUNICABLE (Epidemic) Diseases.																																																																																				
1. Typhoid Fever.....	100	2	5	7	25	50	6	3	2		69	31	35	18	8	2	15		2	2	3	4	4		3	4	5	6	6	5	6	3	4	7	25	16	13	4		100																																												
2. Smallpox.....	2	1		1							1	1	2														1	1	1													2																																										
3. Measles.....	27	8	9	7	1	2					9	18	19	5		1	1					1					2	4	1	1	6	3	4	2								27																																										
4. Scarlet Fever.....	47	6	25	13	2	1					22	25	31	5	3		6						1			1		3	5	6	5	6	4	5		1	7	5				47																																										
5. Whooping Cough.....	25	19	4	2							13	12	24	1														2	3	1	3	3	1	2		4	3	2					25																																									
6. Diphtheria and Croup.....	63	6	24	28	2	3					30	33	47	6			3					2	2	1	1	1		6	5	5	2	5	5	4	12	4	4	10	1			63																																										
7. Influenza.....	30	16	5	3		2			4		14	16	26	2		1												3	5	5	2	5	1									30																																										
8. Other Epidemic Diseases.....	4	2	1		1							4	3																1		1	1											4																																									
II.—OTHER GENERAL DISEASES.																																																																																				
1. Pyemia and Septicemia.....	4	1		2	1						4		4																						2	1	1					4																																										
2. Malarial Fever.....	1			1							1		1																														1																																									
3. Tuberculosis and Scrofula.....	155	8	6	12	30	79	11	7	2		82	73	87	26	8	2	14	1	2		3	1	4		4	3	8	13	16	16	13	11	8	12	14	10	19	15				155																																										
4. Syphilis.....	3	1									1	2	2		1																												3																																									
5. Cancer.....	41				1	11	14	12	3		17	24	14	8	3		3		2	2	4	2	1				4	3	2	1	1	4		3	5	6	8	4				41																																										
6. Rheumatism and Gout.....	11		1	1	2	3	2	1	1		7	4	3	4		1												1	1		1	2	1	2	1								11																																									
7. Diabetes.....	9				1	4	3	1			7	2	7		1	1																3											9																																									
8. Other General Diseases.....	23	8	6	2	2	1	2	1	1		13	10	19	1	1		1					1						2	1				4		9	2							23																																									
9. Chronic Poisoning.....	2										1	1	1				1											1						1										2																																								
LOCAL DISEASES.																																																																																				
III.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SENSE.																																																																																				
1. Encephalitis.....	18	8	6	4							9	9	15	1		1	1												1			5	2		2	1	3						18																																									
2. Simple Meningitis.....	8	4	2	1		1					4	4	6	1			1											1	1				2		2	2	1	1	3				8																																									
3. Epidemic Cerebro-Spinal Meningitis.....	23	4	1	2	4	2	2	5	3		16	7	10	1	2	1	6			1							1	1	4	1	1	1	2		1	1								23																																								
4. Congestion and Haemorrhage of the Brain.....	2			1			1				1	1	1	1														1															2																																									
5. Softening of the Brain.....	13			1			5	2	5		10	3	6	2			1	1						2				2		3	1			1		2								13																																								
6. Paralysis without Specified Cause.....	1										1		1																															1																																								
7. Insanity.....	6	1									1	5	2	3		1												2																6																																								
8. Epilepsy.....	5		2	1							1	4	3	1																2													5																																									
9. Convulsions (not puerperal or infantile).....	17	3	1	3	3	4	2	1			9	8	10	4		1							1	1				3	2				1	1	1	2	3						17																																									
10. Other Nervous Diseases.....																																																																																				
IV.—DISEASES OF CIRCULATORY SYSTEM.																																																																																				
1. Pericarditis.....	2	1				1					2		1			1																													2																																							
2. Endocarditis.....	26			4	3	9	6	1	3		15	11	8	2	1	1	5			1	2	1	2		1	2	3	1	4	1	3	1	3	3	3	1								26																																								
3. Organic Heart Disease.....	42	3	2	1	1	10	11	5	9		29	13	16	8	2	1	5			3	1	1	1		1	2	1	1	2	2	5	9	5	4	3	2	1							42																																								
4. Angina Pectoris.....	4		1								3	1	2	1																															4																																							
5. Diseases of the Arteries, Atheroma, Aneurism, etc.....	47	7	4	1		13	12	8	2		26	21	20	5	3	4	6			1	2		2	2		1	1	7	5	1	2	3	5	4	3	4	4	2	7					47																																								
6. Other Diseases of the Circulatory System.....																																																																																				
7. Diseases of the Sympathetic System.....																																																																																				
V.—DISEASES OF THE RESPIRATORY SYSTEM.																																																																																				
1. Acute Bronchitis.....	33	15	6	3	1		1	3	4		22	11	24	1	2	2	2										2	2	3	4	4	6	2	2		3	3	2	2					33																																								
2. Chronic Bronchitis.....	7		3								3	4	2																																																																							

II.—PUBLIC HEALTH INSPECTION.

The outbreak of so many cases of contagious and infectious diseases together with the inspection of the hospitals throughout the province so enlarged the work of this branch that it was found advisable to appoint an officer to be known as the provincial medical inspector whose duty it would be to visit all districts where outbreaks of contagious disease occurred and supervise methods for control, to inspect hospitals and be on duty for any call involving public health. The person chosen for this work was V. E. Barrow, M.D., of Edmonton, who was appointed the first of May. His report is as follows:

SIR,—I have the honour to hand you herewith a resume of the work done by me away from the office from May 1st (the date of my appointment as provincial medical inspector) to December 31st, 1908.

With regard to outbreaks of infectious disease I have made several visits to municipalities and rural districts, either to take measures myself for the control of the epidemic, or to enquire into the measures being taken by the local board of health for the stamping out of the disease within its jurisdiction and to advise on the most efficient measures to be taken.

During 1908 the most widespread of the zymotic diseases in this province was smallpox, and in many cases I was asked by the local authorities to visit their localities for the purpose of assisting their medical health officer in diagnosing doubtful cases. The following is a list of such visits made by me on account of the more serious infectious diseases:

Smallpox.

Medicine Hat	May 7.	Battle R. Bridge,	May 16 to 27.
Ponoka	June 16 to 18.	Battle R. Bridge,	June 18 to 22.
Macleod	June 23 to 25.	St. Paul de Metis	July 23 to 24.
Gull Lake	July 28 to Aug. 2.	Daysland	Aug. 24 to 29.
Camrose	Aug. 27.	Calgary	September 13.
Calgary	September 18.	Spring Dale	September 19 to 21.
Calgary	September 23 to 24.	DeWinton	October 2.
Vegreville	October 8.	Spring Dale	October 9 to 10.
DeWinton	October 14 to 15.	Innisfail	October 17.
Bowden	October 17.	Wetaskiwin	October 21.
Lacombe	October 26.	Alix	October 26.
Bowden	October 28 to 29.	DeWinton	October 30.
Calgary	November 21 to 27.	Lacombe	December 1.
Nanton	December 3 to 5.	Bowden	December 14 to 15.
Nanton	December 15 to 18.	Calgary	December 18.

Scarlet Fever.

Wetaskiwin	June 22.	Daysland	August 26.
Brickburn	September 14.	Macleod	October 15.
	Macleod		November 12

Diphtheria.

Lethbridge	June 25 to 28.	Leduc	July 2 to 3.
Mundare	July 13 to 14.	Mundare	July 20 to 22.
Mundare	August 12 to 15.	Mundare	August 17 to 22.
Mundare	Aug. 31 to Sept. 4.	Mundare	November 7.
	Pakan		December 28 to 30.

Typhoid Fever.

Langdon	September 14.	Medicine Hat	September 15
	Coleman		November 13.

I have visited the following places to investigate their sanitary conditions, and to advise on the measures to be taken to place them in a better hygienic position:

Canmore	May 8 and 9.	Wetaskiwin	August 24.
Daysland	August 24.	Langdon	September 14
Canmore	September 25.	Coleman	November 13.

On September 19th I inspected the slaughter house occupied by Mr. Puffer, of Lacombe. On November 6th I visited the town of Vermilion to enquire into the responsibility for the expenses incurred in that town during an outbreak of smallpox in 1907, and to examine two buildings, the property of this Department, which had been used as a smallpox hospital during that outbreak. On November 10th I visited Red Deer to confer with the town council as to the disposal of a patient suffering from tuberculosis.

I visited the following nine families, reported to be in destitute circumstances, in order to ascertain whether they should receive aid from the Government:

Persons Reported to be Destitute.

La Valley, Raven	June 2.
Cowthorpe, Pine Lake.	June 3.
Thompson, Ponoka.	June 5.
Primeau, Fort Saskatchewan	July 17.
Marshall, Innisfail.	September 26.
Holmes, Taber.	October 3.
Collins, Longheed.	October 23.
Dawson, Taber.	November 14.
McGuire, Millet.	December 13.

I inspected the following hospitals in receipt of public aid (*i.e.*, a Government grant of 25c per diem for every paying patient and 50c per diem for every non-paying patient entering such hospitals):

Strathcona General Hospital	July 9th.
Memorial Hospital, Pakan.	July 25th.
Vegreville Hospital.	July 27th.
Edmonton Public Hospital	August 4th.
Edmonton General Hospital.	August 6th.
Edmonton Isolation Hospital.	August 7.
Edmonton Misericordia Hospital.	August 17.
Bawlf Hospital.	August 26th.
Calgary General Hospital.	September 14th.
Medicine Hat General Hospital.	September 15th.
Galt Memorial Hospital, Lethbridge	September 16th.
Macleod General Hospital.	September 16th.
Pincher Creek Hospital	September 17th.
Calgary Salvation Army Home	September 18th.
Calgary Holy Cross Hospital	September 23rd.
Canmore, U.M.W. of America	September 25th.
Red Deer Memorial Hospital	September 26th.
Wetaskiwin, Scandinavian Hospital.	October 24th.

During the eight months from May 1st to December 31st in the execution of the above work I travelled, approximately, by rail 9,837 (nine thousand eight hundred and thirty seven) miles, and by road, 2,163 (two thousand one hundred and sixty three) miles. Total, 12,000 (twelve thousand) miles.

V. E. BARROW.

Provincial Medical Inspector.

III.—HOSPITALS.

In connection with the payment of the Government grant of twenty-five and fifty cents to every paying and non-paying patient respectively, entering the various hospitals throughout the province, it has been found to be unsatisfactory, both from a departmental and hospital point of view. It entails a greater outlay upon the Department in having two inspections made yearly, which entails considerable travelling and incidental expenses, together with an amount of clerical work which could be otherwise avoided. It is inconvenient to the hospitals, and I am of the opinion, from remarks made by the different persons in connection with these institutions, that a straight grant per annum would be more desirable. It is my belief, therefore, that the time has come when a change in The Hospital Ordinance should be made—doing away with the two-

class payment and substituting a straight grant of a fixed amount per capita of patients per annum.

A list of the hospitals in receipt of public aid and showing the number of cases treated at the hospitals, the number of days' treatment and a statement showing their financial conditions is herewith appended.

HOSPITAL REPORT.

NAME OF HOSPITAL	LOCATION	NO. OF PATIENTS	NO. OF DAYS' TREATMENT
Calgary General	Calgary	970	14,899
Edmonton General	Edmonton	603	1,190
Edmonton Public	Edmonton	567	9,431
Misericordia	Edmonton	591	14,959
Galt	Lethbridge	491	10,753
Holy Cross	Calgary	1,039	18,299
Macleod General	Macleod	240	2,954
Medicine Hat General	Medicine Hat	851	15,754
Pincher Creek Memorial	Pincher Creek	111	1,403
Red Deer Memorial	Red Deer	167	3,288
Roland M. Boswell	Vegreville	103	2,075
Stratheona General	Stratheona	73	1,282
Isolation	Edmonton	131	2,737
Scandinavian	Wetaskiwin	86	1,532
S. A. Rescue Home	Calgary	102	5,625
Daysland	Daysland	54	816
United Mine Workers	Canmore	72	1,876
Bawlf	Bawlf	139	2,121
Pakan	Pakan	41	634

NO.	HOSPITAL	LOCATION	EXPENDITURE						REVENUE						LIABILITIES.							
			Cost of Maintenance	Expended on Build-ings	Expended on Furnish-ings	Interest on loans and Mortgages	Repayment of loans and Mortgages	Cash on Hand Jan. 1, 1908	TOTAL	Proceeds of loans and Mortgages	On hand Jan. 1, 1907	CONTRIBUTIONS					Interest bearing Notes in the Bank	Mortgages on Real Estate	Rate of Interest	Total in-debtedness Dec. 31 1908	Increase over 1907	Decrease over 1907
												Local	Governm't Grant	Pay Patients	From other Sources	TOTAL						
1	Pincher Creek Memorial	Pincher Creek	\$2,685.67	\$ 228.76		\$ 35.20	\$ 50.00	\$ 155.60	\$3,155.23	\$ 248.10		\$1,138.78	\$ 366.75	\$1,385.60	\$ 16.00	\$3,155.23	\$ 498.10			\$ 498.10		\$ 140.23
2	Bawlf Public	Bawlf	2,392.85	1,394.09	\$ 822.07			375.06	4,984.07	4.90		1,797.50	300.25	2,762.88	118.54	4,984.07	940.00			940.00		2,040.00
3	Red Deer Memorial	Red Deer	6,309.93	39.05	15.55			83.09	11,496.37	5,265.25	\$ 102.87	831.80	1,025.75	3,964.45	306.25	11,496.37	1,949.81			1,949.81		606.02
4	Galt	Lethbridge	16,989.46	632.90	865.70			3,847.02	22,335.08		2,037.83	247.90	3,428.75	10,965.17	5,655.43	22,335.08						
5	Misericordia	Edmonton	8,979.71	1,307.10	1,260.80	2,053.98	2,000.00	1,427.69	17,029.08	59.68	907.22	1,854.45	5,232.50	6,498.94	2,476.29	17,029.08	1,900.00	\$48,000.00	5 1/2 & 6%	49,900.00		2,200.00
6	Edmonton City	Edmonton	13,073.52	360.45	432.92	1,082.95	2,325.00	449.13	17,723.97		365.15	90.85	3,635.00	7,757.80	5,875.17	17,723.97	1,094.28	15,700.00	6 1/2 %	16,794.28		190.52
7	General	Calgary	20,706.20	205.37	108.01	733.45	2,000.00	877.10	24,630.13			1,430.16	5,308.00	11,139.70	6,752.27	24,630.13	2,026.30	8,160.00	8%	10,186.30		2,434.91
8	Isolation, Edmonton	Edmonton	8,177.89		1,014.96		2,155.66		11,348.51				576.00	697.35	10,075.16	11,348.51						
9	Geo. McDougall	Pakan	1,076.39	4,872.29	918.88				6,867.56		4,872.29	427.95	182.50	357.95	1,026.87	6,867.56	227.32			227.32		
10	General, Edmonton	Edmonton	10,949.95	60,768.28	1,327.30	3,670.08		896.39	77,612.00	60,000.00	432.32	2,219.95	4,236.25	8,965.90	1,757.58	77,612.00	49,722.00	50,000.00		99,722.00	\$50,722.00	
11	General, Medicine Hat	Medicine Hat	14,978.72	7,711.50	2,170.43	870.92	102,000.00	240.14	127,971.71	96,799.75	301.14	1,084.00	6,873.75	13,716.20	9,196.91	127,971.71	5,300.00	7,000.00	6%	12,300.00		10,449.40
12	United Mine Workers	Canmore	3,543.54	167.36					3,710.90				904.75	150.50	2,655.55	3,710.90						
13	Scandinavian	Wetaskiwin	1,363.39		59.80			104.63	1,527.82	350.00		196.40	241.75	639.67	100.00	1,527.82		415.00		525.00		
14	Holy Cross	Calgary	17,792.08	6,044.07	6,115.07			26.75	29,951.22		85.50	695.00	7,242.25	16,025.19	5,903.28	29,951.22	18,714.98			35,538.03	1,891.93	
15	Salvation Army Home	Calgary	1,177.56	899.76	371.18			207.67	2,806.19		27.91	898.08	1,380.00	184.00	316.20	2,806.19						
16	General, Macleod	Macleod	5,308.59	885.12	58.00		1,663.00	116.19	8,030.90	2,110.30	.27	492.60	1,126.00	3,504.85	796.88	8,030.90						

IV.—VITAL STATISTICS.

The total number of births throughout the province reported during the year was 5,973. Taking the population for the year at 265,736 as estimated by the Dominion census bureau, it gives a birth rate of 22.47 per thousand.

The total number of deaths which were reported was 2,188, which is 8.23 per thousand when estimated on the same basis of population. On page 63 is given a table showing the births and deaths occurring during the different months of the year.

In connection with the foregoing I would point out, that the natural difficulties presenting themselves to all new and large countries attracting thousands of immigrants and settlers many of whom choose to settle in the outlying portions of the province many miles removed from any registration office, render it, at the present time, impossible to regard the birth and death rate as anything more than merely an approximate estimation of these statistics. To this may be added the fact that, owing to section 26 of The Vital Statistics Act, it is impossible to tabulate with any degree of accuracy the number of registrations made within any given year. Accurate subsequent reports and tabulations can only be obtained within two years of the report issued, and then are liable to change at any time should the Minister act as provided for in section 27 of the same Act. With this fact before us, it should be noted that the table showing the number of registrations reported to the Department must necessarily be only approximately correct.

Another reason which I might mention why full and correct returns cannot be obtained is the ignorance of the law upon the part of recently arrived settlers, especially those of foreign extraction.

I especially desire to call your attention to the deplorable ignorance and the wilfulness with which some of our settlers of foreign extraction, notably those classed generally by the public as Galicians, neglect or are indifferent in regard to the saving of human life.

In respect to this we have experienced the greatest difficulty in persuading these people, particularly in the case of infants and young children, to call in the services of a physician, especially when the first or early symptoms of serious sickness present themselves. From careful observation I can come to no other conclusion than that they appear to be indifferent in many cases as to whether a child lives or dies, when the question of expense incurred by reason of calling in a physician is involved. Then again it appears that they usually make some effort, in the case of children who have arrived at an age when they may be of some service to their parents in the way of work or usefulness, to call in the services of a physician, which thus gives the child a chance for its life; but in the very young, in the majority of instances, the only treatment these unfortunate children receive is by the parents, neighbours and priests with crude and oftentimes filthy home remedies, quite oblivious and ignorant of the fact that the children may be at death's door with diphtheria; for instance, when to their ignorant minds it is simply "sore throat" and whose lives in a large percentage of cases could have been saved by a proper diagnosis being made and antitoxin administered in the early, and even later, stages of the disease, to say nothing of the fact that by reason of the disease having been drawn to the attention of the medical attendant or the R.N.W.M. Police, proper quarantine methods would be immediately carried out and the disease pre-

vented from spreading to the other occupants of the house and the surrounding people, thus unnecessarily endangering the lives of many that would otherwise have been protected from infection.

V. INCURABLES.

The arrangement with the Medicine Hat General Hospital whereby this institution cares for such persons suffering from an incurable disease, and which may be entered in this hospital upon the order of the Government, still continues in existence.

Number of patients ..	7
Number admitted during the year...	3
Number discharged ..	2
Number died during the year..	2
Number days...	1,295
Amount expended ..	\$1,303.50

VI.—CHARITY AND RELIEF.

During the year relief has been extended to persons from the following points:

Fort Chipewyan.—Man found ill with scurvy and abscess. Travelling expenses from Fort Chipewyan to Athabasca Landing and medical attendance provided.

Pine Lake.—Destitute woman. Husband in asylum, provisions supplied.

Camrose.—Man with tuberculosis, and destitute. Died. Board, medical attendance and burial expenses paid.

Athabasca Landing.—Operation for trepanation. Travelling expenses and medical attendance paid.

Edmonton.—Infirm and indigent man entered at Edmonton General Hospital, provided for by the City of Edmonton and the Government.

Fort Saskatchewan.—Woman, pregnant, and destitute. Board for herself and children and medical attendance during her confinement and lying-in period provided.

Millet.—Destitute man. Removed to Daysland Hospital.

Lamont.—Man, indigent, tuberculosis, board, medical attendance at Sanatorium. Edmonton, and burial expenses paid.

Stettler.—Children, mother committed suicide, father abused children. Children taken from him and placed with other persons.

Innisfail.—Family. Father unable to work through illness. Provisions supplied.

Lindsville.—Destitute man. Provisions supplied.

Lloydminster.—Man, tuberculosis, provisions supplied to himself and family. Burial expenses paid.

Calgary.—Family. Father could not get work. Provisions supplied.

Calgary.—Father deserted family, provisions supplied.

Athabasca Landing.—Medicine for distribution supplied to Sisters of Providence, Athabasca Landing.

Banff.—Destitute man found on C.P.R. tracks, injured. Hospital accommodation provided.

VII.—BURIALS.

During the year twelve burials were authorized at the public expense.

I have the honour to be, Sir,

Your obedient servant,

L. E. W. IRVING,

Provincial Health Officer.

10.—REPORT OF THE SANITARY ENGINEER.

SIR.—On behalf of the Provincial Board of Health the writer visited during the year many of the cities, towns and villages in the province, and was pleased to note the position in which many are with regard to public water and sewerage works, the works others are now laying down, and the desire of the remainder to obtain at as early a date as possible such very necessary works. The following extracts from the reports of the various city engineers show the progress which is being made in the installation of works which are conducive to the health of a community:

CALGARY.—The City of Calgary has been engaged installing a gravity system of water supply for a prospective population of one hundred thousand.

The intake works for the system is situated on the Elbow River, about thirteen miles from the centre of the city, and consists of a channel from the river to a large sedimentation basin and natural filter from whence the water is conveyed in a continuous wooden stave water main of thirty inches diameter for about ten miles at a fall of approximately five feet to the mile, and thence at a sharper fall through a short length of twenty-six inch main of similar construction to a service reservoir constructed at a point about three miles distant from the centre of the city, and at an elevation of about two hundred feet above the surface of the business portion of the city. The site chosen for the reservoir is a natural depression across the lower end of which an earthen dam is being constructed on the inner toe of which is being constructed a water tower wherein the inlet, outlet and service main valves may be placed. A sixteen inch connection will be made between the reservoir and the twenty inch and eighteen service mains which now convey the water to the distributing mains of the city, and in order to serve the portion of the city on the north side of the Bow River, a tunnel about forty feet under the Bow River, six feet by four feet, and six hundred and fifty feet in length has been constructed wherein for the present a sixteen inch cast iron service main is laid. The total cost of the scheme will amount to half a million dollars.

The city has added a second refuse destructor, also considerable additions have been made to the sewerage system, and about five miles of permanent paving have been laid in the main thoroughfares.

EDMONTON.—Previous to 1902 Edmonton water supply was, as it is now, derived from the Saskatchewan River, being forced by a small duplex steam pump placed on a floating platform, from the river level to an elevated tank on the plateau above and distributed by tank waggons from house to house, the population of the town then being approximately 2,500. In 1901 preliminary steps were taken for the installation of a waterworks system and active work began the following year. The first installation consisted of one compound duplex pump of a capacity of 750,000 Imperial gallons per twenty-four hours, approximately four miles of distributing mains, fifty fire hydrants, sedimentation basin of 500,000 gallon capacity and an elevated stand tank of 60,000 gallon capacity and also two centrifugal pumps for pumping from the river into the sedimentation basin. It will thus be seen that the pumping of the water for the city is done in two stages: First, the raising of the water from the river level to the ground level—a height of approximately 39 feet; second, the delivering of the water from the power house level under domestic or fire pressure as the case may be. The distributing system has been added to from year to year until at the close of 1907 there were 39.84 miles of distribution mains. The pumping capacity has been added to by the installation of one steam pump of 1,500,000 Imperial gallons capacity per twenty-four hours; and one turbine pump electrically driven of a capacity of 3,000,000 Imperial gallons per twenty-four hours. Water is supplied to the business portion of the town at 35 lbs. domestic pressure and at 80 to 100 lbs. fire pressure. As the business portion of the town occupies the highest ground in the city the above pressures are found quite sufficient for all parts of the city.

A refuse destructor has also been installed.

MEDICINE HAT.—Medicine Hat was incorporated as a town in the year 1898.

In the year 1900 the town decided to instal a water system. The pumping station was located on the bank of the river at a point which at that time was well out of the town. The pump house which was built of brick was 26 ft. x 32 ft. and contained two Northey compound duplex steam pumps, one having a capacity of 800,000 Imperial gallons and the other 400,000 Imperial gallons in twenty-

four hours, also two fire tube boilers of thirty and sixty horse power respectively. Through the town about two miles of mains were laid and twenty fire hydrants erected. The boilers at this time were fitted with grates, and coal which is obtained close to the town was used for fuel. At this juncture it is necessary to digress somewhat from the report of the water system to introduce a new fuel which took the place of coal under the boilers.

Natural Gas.—In the year 1902 (natural gas having been discovered some time previous to this) the town decided to put down a well on the pump house property. At a depth of 660 ft. a good flow of gas was struck and was piped to the boilers where it was used as fuel. Although this report is not intended to deal with the gas supply yet pardon is expected for dwelling a little more at length upon this great gift of nature enjoyed by the city, and which must in the near future mean the making of the city into one of the largest industrial centres of the great and glorious west. Soon after this first well had been put down four more wells were drilled and gas supplied for domestic consumption. Very soon, however, the demand exceeded the supply and the question how to overcome the difficulty arose, which was answered by the advice to drill deeper. Accordingly a well was sunk to 1,000 feet where a flow of three million cubic feet was obtained in twenty-four hours. When the well was capped the pressure went up to 600 lbs. Since that time two other 1,000 foot wells have been drilled.

The analysis of the gas is as follows: Methane 99.49, Hydrogen .51, Oxygen a trace. One cubic foot of this gas is equivalent to 1,100 B.T.U.'s. Since the first discovery of gas in this district the field has been found to extend 100 miles east and west and 50 miles north and south. Wells drilled here sixteen years ago show no depreciation in flow. A year ago a well was sunk thirty miles west of here to 2,000 feet and a flow of 8,000,000 cubic feet obtained. This well closed in shows 800 lbs. The city acting on expert advice are now putting a well down to the 2,000 foot level. At this depth the oil sand containing the gas is estimated to be 100 feet thick, consequently it is expected to strike an almost inexhaustible supply.

Gas is used for heating, lighting, cooking and power, and is sold to the domestic consumer for 15 cents per thousand cubic feet with 10 per cent. off if paid within 30 days, and to manufacturers at 5c per thousand cubic feet. Enough, however, has been said about gas and a return will therefore be made to the water system.

About the only work done up to the year 1906 was the extending of the pipe system by a few miles. It was in this year that Medicine Hat was incorporated as a city and W. P. Morrison, Mem. Can. Soc. C.E., was appointed city engineer. At this time it was decided to install some system of filtering the water which during a few months in the spring of the year carries in suspension quite a large quantity of fine mud and particles. Several plans for filtering were considered and a contract finally awarded for the installation of a 2,000,000 Imperial gallon mechanical gravity plant.

The complete cost of the plant was \$31,000 and the work was carried out by the city in accordance with plans and specifications of the manufacturer, who furnished all the machinery and piping necessary for the work. The company's guarantee is that when the number of bacteria in the raw or applied water is 3,000 per cubic centimetre or more that the filtered water shall show an average reduction of 97 per cent. and when the number of bacteria is 3,000 or less that the filtered water shall not average more than 100 per cubic centimetre. The city has not as yet been able to test this guarantee, but are now preparing to have the water analyzed regularly.

In the year 1906 a contract for the construction of a 500,000 Imperial gallon stand pipe was let.

The tank which is 35 feet in diameter and 70 feet high was placed on the bench land at an elevation of approximately 120 feet above the city and at a distance of 1,600 feet in a southerly direction from the pumping station. It was placed on a concrete foundation and a 10 inch pipe was laid from the pumping station to the stand pipe. The pipe system which had already been laid was connected at the station with the pumps and at the stand pipe with the new 10 inch main. The cost of the foundation for the tank was \$2,800 and the cost of the tank erected on the foundation was \$12,500.

In the year 1907 it was decided to install new pumping machinery as the old pumps were in very poor shape. Accordingly after a very careful study of the problem the plan adopted was to secure two belt-driven Worthington four-stage turbine pumps having a capacity of 750,000 Imperial gallons each in twenty-four hours, and two Premier four-cycle single cylinder gas engines of 100 B.H.P. each. At the time that the new machinery was bought it was the intention to keep the old steam pumps as an auxilliary, and accordingly the boilers were moved south a distance of 20 feet. The place the boilers used to occupy and the space between the old pump pit and the filter plant was excavated to the depth of the old pump pit, which was on a level with the floor of the machinery room of the filter plant. The

excavation was also extended west a distance of 18 feet. This made the new pit 32 feet wide by 70 feet long and in this pit the engines and pumps were placed. The pumps were connected with suction from the clear water well and also the cell outside of the building.

The walls of the building were built of brick and carried up to the same level as the top of the walls of the filter building. The foundation of the building enclosing the pit was built of concrete. The roof of the building is of wood covered with metal shingles. That part of the building containing the boiler is 26 feet by 32 feet. It is built of the same material as the rest of the building and forms an L of the pump house, at that end of the building opposite to the filter building and lying parallel with it.

Although it was planned at the time that these changes were made to erect a counter shaft with the necessary belting and pulleys so that either pump could be run by either engine, yet it was not until 1908 that the carrying out of this work was considered. At this time enquiries were also made concerning the cost of repairs to the old steam pumps, and also as to the cost of a new pump. From these enquiries it was found that a new pump was the cheaper and better proposition, consequently the old pumps were disposed of, and a contract entered into for a fire underwriters pump having a capacity of 1½ million gallons in twenty-four hours, against a head of 350 feet. This pump and the transmission machinery has just been installed.

For heating the building a 4 inch wrought iron pipe is laid from the old boiler encircling the pump and filter houses on an incline and outlets in the well outside the building. At the boiler a connection was made with 1½ inch pipe. With five pounds of steam the pump and filter houses are kept quite comfortable even when the temperature is at its lowest. In addition to heating this system has the advantage of keeping the well free from ice. The cost of the pump house and installation was as follows: Engines \$7,400; pumps \$3,400; pump house, building, well, break-water, boilers, etc., \$19,800.

At the present time the city has eleven miles of mains, 1,000 services and 70 hydrants. During the season it is proposed to lay three miles of mains, install 200 services, and erect 35 hydrants. Up to the present the system has cost \$190,000.

Sewerage.—The system which the city engineer has designed is a separate one taking care of the house drainage only. The plan covers fourteen miles of mains of sufficient size to allow another fourteen miles of extensions, which when completed will provide drainage for all that part of the city, capable of using the present outlet, which is located near a block of land secured for the erection of a purification plant when it is required. The completed system will be capable of carrying away the sewage from a population of 30,000 people. The grades and sizes of the pipes are such as to secure self cleaning velocities. Manholes are placed at all street intersections and changes in line and grade. Automatic flush tanks are provided for all dead ends.

At present the sewage flows directly into the river except during flood seasons when it enters a well from which it is pumped into the river. The city had at the first of the year one and one-half miles of pipe laid and have now two and one-half miles under construction. The work in connection with the system up to the end of the year is estimated to cost \$65,000, which includes connections.

Storm water is now being taken care of by surface ditches, which are quite effective and are very seldom required in this land of sunshine. It will not be long, however, before a system of storm sewers for the business portion of the city will be installed, and will be extended as required to meet the rapidly growing demands.

For some time the erection of an incinerator for the disposal of garbage has been under consideration, and one will doubtless be installed in the near future. Up to the present however garbage is moved by its owner to a plot of ground belonging to the city where it is burned and buried by men in the employ of the city. Excreta is also moved to the same place and buried. This work is let out to contract by the city and the cost thereof charged back to the property owner. For the purpose of keeping a check on this work and to see that all premises are kept clean the city has in its employ an inspector (acting under the medical health officer) who also superintends the operation of destruction and burial at the dumping ground. For the work of inspection and destruction an amount of \$2,500 is placed in the estimates each year.

Permanent sidewalks have, and street paving is now, receiving favourable consideration. There are now three and one-half miles of concrete sidewalks, and in the near future the streets in the business portion of the city will be paved.

RED DEER.—Red Deer was incorporated as a town in 1901, the population being at that time about 500. As the town developed the council felt the need of better fire protection, and, after experimenting with fire tanks, engines, etc., which were not found satisfactory, it was decided to take up the question of installing a water service from the Red Deer River. A contract was made with the Western

Genreal Electric Co. to operate the system for a term of years terminable in 1916, the town to pay \$50 per annum per hydrant and 60 per cent. of the gross water rates. A Snow pump of 1,000,000 gallons capacity was installed, and water mains laid along the main streets of the town. These have been added to so that at present there are about 20,000 feet of water mains laid covering the main business and residential streets of the town. The total cost of installing the pump, filtration basins, mains, etc., has been \$49,147.42 and the system is now equal to any in the west.

The water is taken from the Red Deer River which rises in the mountains. In the river bed is a tank into which the water flows; adjoining this and built into the bank is a basin with walls of gravel and cinders through which the water is filtered before being pumped into the mains. The domestic pressure is maintained at not less than 30 pounds per inch, and in case of fire alarm this is raised within five minutes to 75 pounds; within five minutes additional to 100 pounds; and five minutes additional to 120 pounds, where it is maintained as long as required. Though no serious break has occurred since the installation of the system the council is taking steps to install a duplicate of the present pump.

The analysis of the water made by Dr. Charlton, Provincial Bacteriologist, of Regina, is as follows:

"The sample of water from Red Deer has been examined bacteriologically as requested. This is a pure sample of water, being free from pollution. Colour, clear. Transparency, transparent. Odour, none. Taste, tasteless. Free Ammonia, .0007 parts per million. Albumenoid ammonia, .0004 parts per million. Total ammonia, .0011 parts per million. Nitrogen as nitrates, a trace. Nitrogen as nitrites, a trace. Chlorine as chlorides, .6 grs. per gallon. Organic matter, .55 parts per million. Total solid matter on evaporation, 22.4 grains per gallon. Solids Volatile on Ignition, 9.1 grains per gallon. Observation on ignition of solids, slight charring. Hardness temp., 7 grains per gallon. Hardness perm., 1 grain per gallon. Hardness total, 8 grains per gallon.

"Remarks: This is an excellent water for domestic and industrial purposes. It is a fairly soft water, contains no alkali (magnesium salts) and is highly pure. If required for brewery or distilling purposes it would be necessary to add a quantity of common salt and magnesium sulphate in order to facilitate the growth of the yeast plant. It will be difficult to find a water better suited to general purposes provided the quantity is sufficient."

Soon after the waterworks system was installed the need for sewers commanded the attention of the council, and in 1906 the first sewers were laid along the main streets of the town. These have been extended so that at present there are 18,922 feet of main and lateral sewers in town serving the business and principal residential streets, and costing to date \$51,656.81. The sewer outlet is into the Red Deer River below the town. Plans and specifications of tanks and filtration beds have been prepared, and some work has been done already on the tank which will probably be completed next year.

The Town of Red Deer has adopted the commission system of government which has proven highly successful. The waterworks and sewers have been almost entirely constructed by day labour under the supervision of the commissioners, and the town with a population of about 2,500 has now a complete waterworks and sewerage system installed at a cost of about \$100,000.

The town has not as yet provided a refuse destructor but has a good scavenger system. To assist people in putting in sewer connections the town had legislation passed permitting it to put the sewer connections into the property of ratepayers, and to allow the property owner to repay the cost in five annual instalments with interest. They have also passed a by-law to compel property owners to connect with the sewers where possible. This has been largely done so that in a short time practically all houses and blocks will have sewer connections.

LETHBRIDGE.—The City of Lethbridge has a modern water and sewerage system, but as yet no sewerage disposal works have been constructed. The city has in use 18½ miles of water mains with 600 connections and 8 miles of sewer mains with 325 connections. The water mains are partly cast iron and partly wood stave pipes which are sufficient for the pressure of at least 130 lbs.

The pumping equipment at present consists of duplicate motor driven turbine pumps each with a capacity of 1,000,000 gallons per day. The city is at present constructing a new combination electric light and water pumping station in which will be installed a high-duty steam pump with a capacity of 2,000,000 gallons per day.

The water system further comprises two stand pipes, one of 160,000 gallon capacity and the other of 480,000 gallon capacity. From these stand pipes independent force mains lead directly from each to the pump house, the smaller stand pipe being connected by a ten inch cast iron main and the larger by a twelve inch main partly cast iron and partly wood stave. At the intake the water is filtered through sand and gravel deposits.

In regard to the sewer system a good fall in two directions exists in the city giving ample grade for the proper operation of the sewerage lines. The main out-fall drops approximately 300 feet, from the level of the bench upon which the city is situated to the point of discharge at the Belly River. A good site can be obtained upon which to locate any sewerage disposal works required.

STRATHCONA.—Trench excavation and laying pipe were commenced in July, 1905, and at present there is in operation eleven miles of water mains, varying in diameter from six to twelve inches. In connection with these mains are 85 hydrants, 175 gate valves and 270 water services.

The supply is taken from the Saskatchewan River, filtered through a gravel bar two hundred feet in width into three wells twelve feet apart and connected up with two iron pipes. The water is clear and the supply is ample for both domestic and fire purposes, the intention being to increase the number of wells with the increase in water consumers. Two of the wells are constructed of brick with thirteen inch walls, and one of concrete, the wall being nine inches in thickness, inside diameter of each well twelve feet and depth of each fifty-two feet.

Two steam pumps, each of 640 gallons capacity per minute raise the water from these wells into a steel reservoir twelve feet in diameter and twelve feet in depth, situated under the floor of the pump room. From this reservoir two tandem duplex steam pumps, each of 750 gallons capacity per minute force the water through a 12 inch main into the system. The elevation of the city above the pump room floor is 150 feet.

An elevated steel tank 40 feet in height and 24 feet in diameter of 120,000 gallons capacity on a tower 90 feet high is kept filled with water giving a constant pressure of 50 pounds at the hydrants. In emergency cases the tower can be shut off and the pressure increased to 120 pounds. In addition to the above pumps a four inch emergency centrifugal pump and meter of 500 gallons capacity per minute pumps the water direct from the river into the receiving reservoir under the floor of the pump room.

Two boilers of 100 H.P. each and one of 200 H.P. supply steam for the water-works and electric light plant. With the exception of 900 feet of 12 inch cast iron force main from the power house to the level of the city street the mains are wire wound wood pipe which is giving entire satisfaction.

Meters are in use for domestic consumption and flat rates for lawns and building construction. Water rates are on a sliding scale as follows:

Up to 1,500 cubic feet per quarter,	25 cents per 100 cubic feet.
1,500 to 3,000 cubic feet per quarter,	21 cents per 100 cubic feet.
3,000 to 6,000 cubic feet per quarter,	18 cents per 100 cubic feet.
6,000 to 9,000 cubic feet per quarter,	16 cents per 100 cubic feet.
9,000 to 12,000 cubic feet per quarter,	14 cents per 100 cubic feet.
12,000 to 15,000 cubic feet per quarter,	12 cents per 100 cubic feet.
Over 15,000 cubic feet per quarter,	10 cents per 100 cubic feet.

Meter rentals are as follows:

$\frac{5}{8}$ and $\frac{3}{4}$ inch,	50 cents per quarter.
1 inch,	75 cents per quarter.
1 $\frac{1}{4}$ inch,	\$1.10 per quarter.
2 inch,	\$2.00 per quarter.

Water for building purposes:

Each 1,000 bricks laid.	10cts.
Each cubic yard of concrete	10cts.
Each square yard of plastering	1ct.

For lawns and gardens:

Area of 1,000 sq. ft. or less.	\$4.00
Each additional 1,000 sq. ft. or fractional part thereof.	1 00

Sewers.—The city has at present eight miles of sewers in operation and two miles of extensions will be completed next year. The diameter of tile for house drains is six inches. The main sewer is from 18 to 24 inches and the laterals from 8 to 15 inches. At present the sewage empties into the Saskatchewan River, but a complete sewage disposal plant is shortly to be constructed. In connection with the system are 90 manholes, 270 house drains and 80 catchbasins.

Nineteen miles of plank walks have been constructed, varying in width from four to eight feet. The construction of concrete walks was commenced last year, one and one-half miles of six, eight and fourteen feet widths being completed to date. The paving of four blocks on Whyte Avenue will be completed by the 15th of October.

WETASKIWIN.—During the year 1908 the council authorized the issuing of debentures amounting to \$140,000 for the purpose of constructing waterworks, sewerage and sewage disposal systems.

MACLEOD.—Macleod is a town of approximately two thousand people, and though one of the oldest towns in Alberta, it is only during the last three years that public improvements have been carried on to any extent, but in this time the progress made has been very great. In 1906 plans and specifications for a power house, pumping station and system of water mains were made, and in 1907 these were put into service, and up to the present time have been a great public benefit. Many extensions have since been made, and now the town is served by over five miles of water mains, and forty-three hydrants for fire protection. There is also over six miles of pole line for distribution of electrical energy for light and power. The power house is equipped with the most modern machinery, and this plant together with the system of waterworks represents a capital expenditure of over one hundred and sixty thousand dollars. The council has voted thirty-five thousand dollars for a sewerage system which will be installed in 1909. This system will sewer practically the whole of the business and residential portion of the town, and will be of great benefit in keeping the town in a healthy and sanitary condition. There is also much money about to be spent in cement sidewalks and grading, this matter being in hand at the present time, and for a western town of two thousand Macleod is surely keeping pace with the times. All the public improvements are owned by the municipality.

GENERAL WORK.

The plans and specifications of the foregoing waterworks, sewerage and sewage disposal works were submitted to the Provincial Board of Health for its approval, were examined and reported upon by the writer, and in the interests of public health the construction of the new works was also supervised.

The works of those cities complaining of the quality of their water supply were examined and advice tendered. The conditions of the water supplies and sewerage works in many of the smaller towns and villages were examined and advice given.

Information with reference to waterworks, sewerage and sewage disposal works was furnished many municipalities and persons.

The water supply, drainage, sewerage and sewage disposal of the new asylum grounds at Ponoka consisting of 800 acres was considered in conjunction with the officials of the Public Works Department, and a system of drainage and sewerage decided on.

A system for the disposal of the sewage at the new court house was designed.

Regulations respecting water supply, pollution of rivers, lakes and other bodies of water, drainage, sewerage, sewage disposal, refuse destructors and plumbing were prepared and submitted to the Provincial Board of Health for their guidance in framing regulations on these subjects under the power conferred on the board by the Public Health Act. In addition to the above, as a member of The Provincial Board of Health, the writer attended the regular meetings of the board throughout the year.

R. B. OWENS,

Provincial Sanitary Engineer.

11.—REPORT OF THE DIRECTOR OF THE LABORATORY.

SIR,—I have the honour to submit the following report on the work of the Provincial Laboratory for the year ending December 31st, 1908.

In the prevention of diseases, especially those that are infectious and contagious, it is of prime importance to have the intelligent co-operation of the public. This can be obtained only by educative work which places the general public in possession of definite knowledge of facts regarding the nature, causation and prevention of contagious and infectious diseases. The necessary measures for preventing the spread of a disease can then be carried out more successfully because more willingly and intelligently observed by those who are most directly concerned.

In the 1907 report of the laboratory an endeavour was made to give the report an educational value by including brief and concise information on some subjects with which the laboratory deals. As lack of space does not permit a repetition here of the general information that was given last year, those interested are referred to the 1907 report.

The work of this laboratory covers several distinct fields which are here discussed separately.

I.—THE DIAGNOSIS OF CONTAGIOUS AND INFECTIOUS DISEASES.

The primary purpose of the examinations to aid in the diagnosis of communicable diseases is the *protection of the well people* (prevention of disease) *by recognizing and providing adequate cure for the sources of infection, i.e., the sick or infected individuals.* Infectious and contagious diseases are spread by the conveyance of infection from the sick to well people, hence every person sick of a communicable disease is a menace to all about him to whom the disease may be transmitted. But the danger of spreading such disease may be avoided or very greatly reduced by the use of proper measures, for example isolation, quarantine and disinfection in certain diseases such as scarlet fever and measles, and by proper nursing and care of the sick and the safe disposal of the infectious discharges, as in pulmonary tuberculosis and typhoid fever. Or such additional measures as vaccination against smallpox and immunization against diphtheria by antitoxin may be used in addition to the above mentioned.

In order that the examinations relating to infectious diseases may be safely and successfully carried out it is essential that the directions regarding samples, as furnished on forms supplied with each outfit, be fully and carefully followed. It is dangerous to the public to send such specimens through the mails without certain precautions. Thus for tuberculosis sputum, disinfection by carbolic acid must be used. To protect the public, therefore, it is necessary to insist on the directions being followed and to accept for examination only specimens properly put up and contained in the outfits provided by the laboratory. Occasionally specimens are sent in without any data or even mark of identification to show from whom they come. It is of course impossible to report on these. The numbers of specimens examined and the results are shown in the following table:

TABLE I.—SPECIMENS EXAMINED FOR DIAGNOSIS OF INFECTIOUS AND CONTAGIOUS DISEASES.

DISEASE	No. of specimens	RESULT		SPECIMENS SENT FROM		No. received each month
		Positive	Negative	Phys'ns	P.O.	
Typhoid Fever...	118	76	42	43	19	Jan. 2
						Feb. 1
						Mar. 11
						April 2
						May. 9
						June 6
						July. 11
						Aug. 24
						Sept. 11
						Oct. 30
						Nov. 7
						Dec. 7
Diphtheria.	211	90	121	65	24	Jan. 2
						Feb. 8
						Mar. 40
						April 24
						May. 26
						June 17
						July. 4
						Aug. 10
						Sept. 12
						Oct. 6
						Nov. 15
						Dec. 59
Pulmonary Tuberculosis...	237	79	157	91	37	Jan. 9
						Feb. 24
						Mar. 26
						April 22
						May. 16
						June 24
						July. 20
						Aug. 13
						Sept. 26
						Oct. 18
						Nov. 23
						Dec. 14

To facilitate sending specimens to the laboratory for examination to aid in diagnosis of these diseases outfits with containers and directions for use ready for mailing were prepared and sent out direct to physicians and supplies of them were placed at the following repositories and renewed as necessary from time to time:

LIST OF SUPPLY STATIONS.

<i>Post Office</i>	<i>Name</i>
Airdrie	Dr. W. F. Edwards.
Banff.	National Park Drug Co.
Bentley	Dr. W. G. Evans.
Calgary	W. Maclean (Druggist).
Camrose	Dr. Lamb.
Carstairs	G. F. Kennedy (Druggist).
Claresholm	C. L. Reinecke (Druggist).
Daysland.	J. H. Barrows (Druggist).
Didsbury.	H. W. Chambers (Druggist).
Edmonton	1.—Edmonton Drug Co.
	2.—Dr. J. D. McLean (Drug Store).
	3.—City Health Department.
Fort Saskatchewan	Dr. P. Aylen.
Gleichen.	Dr. Wm. Rose.

Hardisty.	Eddington Drug Co.
High River	Dr. Hamilton.
Innisfail	Mr. Geary (Druggist).
Irvine	Dr. H. J. Ferguson.
Lacombe	N. I. McDermid (Druggist).
Lethbridge.	Dr. L. G. DeVeber.
Lloydminster	Red Cross Pharmacy.
Lundbreck	Dr. A. C. Johnson.
Macleod	H. B. Barnes (Druggist).
Magrath	Magrath Pharmacy.
Medicine Hat	1.—Dr. O. Boyd.
Nanton	2.—General Hospital.
Okotoks	Dr. J. A. Creighton.
	G. W. Edmonds (Druggist).
Olds	1.—Dr. Little.
	2.—Dr. R. C. J. Stevens.
Pakan	Dr. C. H. Lawford.
Pineher Creek	E. J. Mitchell (Druggist).
Ponoka	Dr. W. A. Campbell.
Raymond	Dr. J. H. Rivers.
Red Deer	Dr. John Collison.
St. Albert	Laval Drug Co.
Stettler	The Dunlop Drug Co.
Strathcona	Frank Cowles (Druggist).
Taber.	Dr. N. Aikins.
Vegreville	Drs. Field and Monkman.
Vermilion	F. C. Long (Druggist).
Viking	Dr. G. E. Story.
Wetaskiwin	1.—Dr. R. D. Robertson.
	2.—Humphrey Higgs (Druggist).

TYPHOID FEVER.

Specimens of blood from suspected cases are examined by the laboratory to aid in the diagnosis of this disease. As the symptoms of it vary from very slight indisposition to the most extreme prostration it is often most difficult for medical men to diagnose. By means of the Widal test, however, it is frequently possible by the examination of a few drops of the patient's blood to ascertain if he has typhoid. All precautions against the communication of the infection to others may then be rigidly continued.

As an example of the way in which this disease may be spread, the following brief account of an outbreak that I investigated early in the year is instructive: On December 2nd, 1907, a man came to work for a farmer. The man was not well but kept at work. Between December 16th and 28th, six of the farmer's family (all of his children) came down with typhoid fever and one died. The man himself was so ill by December 25th that he was taken to the hospital. Later he died also. The farmer's well was seriously exposed to pollution as there were two open holes in the top through which the pump-rods passed*; but as many other people used this well water at the same time and did not become ill the water was quite evidently not infected. The conveyance of the infection was in all probability due to "contact," which includes such means as the use of the same utensils for food or drink without completely sterilizing after use by the infecting person. Ordinarily such an outbreak would be attributed to "the well water" or other water

*The pump in this case was a double-action Anderson force pump. This very popular pump should have a casing on each rod a foot or more high above the pumpstand with a water-tight connection to the well cover to prevent contamination of the well by the entrance of pollution (from boots, etc.) deposited on the pump-stand. Every well for domestic use should have a good, watertight, sloping cover and the drip water should also be prevented by carrying the curbing (or lining of the well) a foot or so above the ground-level and the curbing should be backed by a foot of clay down to the level of the ground-water. A well should be at least 40 feet—and better further—from any possible source of pollution, and surface-wash should be most carefully guarded against.

used for drinking and the real source of danger would thus be usually overlooked. Every case of typhoid fever should be thoroughly investigated to discover and remove the source of the infection if possible. I do not wish to be understood as saying that typhoid is not often conveyed by water. It is; but there are other and probably more prolific agencies that should not be ignored.

At the meeting of the Provincial Medical Association held in August at Banff, I presented a paper on the cause, spread and prevention of typhoid fever. Subsequently this paper was published in a modified, popular form in various newspapers in Alberta and Saskatchewan. A brief resume of parts of it is here included for reference and to reach other readers:

PAPER ON TYPHOID FEVER.

Etiology (or *Causation*). The occurrence of typhoid fever, in a general way, as in case of any infectious and contagious disease, involves three requisites, viz.:

1. The *germ* which causes the disease.
2. The channel or *route of infection* from patient to new victim.
3. *Susceptibility* of the new host or person to whom the germ has been conveyed—the “soil” must be suitable for the “seed.” In other words we may say that to produce a crop of typhoid, there are necessary: 1. *The seed*. 2. *The sower*. 3. *The soil*. A great deal of interest attaches to the sower, *i.e.*, the various ways by which typhoid is conveyed from person to person.

I.—The Seed.

The essential cause of typhoid fever is the typhoid germ, *bacillus typhosus*. *Nothing else will produce typhoid fever*. This germ is a minute plant, about three times as long as it is thick. So small is it that from 6,000 to 12,000 placed end to end would only make one inch in length. Much is known about this organism, but a great deal remains to be learned about its habits both within the human body and outside it. One thing we do know is that *its habitat, or place of natural existence, is within the human body*, and that every case of typhoid comes more or less directly from a pre-existing case. No other animal is subject to the disease and the germ does not thrive ordinarily outside the human body. “Getting infected human faeces in the mouth” is the not very elegant yet explicit way of stating nearly the whole truth about typhoid infection.

Viability, or length of life of the germs. How long do typhoid germs survive under various circumstances?

1. *Longevity of typhoid germs in water*.

In a general way the following figures are true:

- 30 per cent. of the typhoid germs survive one week in ordinary water.
- 10 per cent. survive two weeks.
- 3 per cent. survive three weeks.
- 1 per cent. survive four to five weeks.

In other words, about two-thirds of the survivors die each successive week or one-third survive. It is not known how long the few remaining ones may live. Typhoid will not survive in sewage-polluted water as long as in pure water, because there are so many hostile organisms in the former. The germs probably die much sooner in very cold water.

The resistant few, which remain after a month, are the great menace to public water supplies. We do not know whether they are more infective (that is, more able to get past the natural defensive powers of the body) or not, but it is likely they are. How important this resistant one per cent. (which may survive six weeks in water) really is, readily appears from figures: A single typhoid stool may contain 1,000,000,000 (one billion) germs, one per cent. of which is 10,000,000 (ten million). These are *selected* germs and just how long they will survive nobody knows.

II.—The Sower.

The seeds of typhoid are sown by any agency that can transfer the germs from one person to another. This can be effected by anything that becomes infected with the germs and later enters a person's mouth before the germs die or are destroyed. The chief of these agencies or “sowers” are water, ice, flies, milk, oysters, raw vegetables and notably “*typhoid carriers*.” These are briefly discussed below, but it is to be emphasized that the germs *do not originate in bad water* nor in unhygienic or insanitary conditions. They come only from persons, either sick

or well, who harbour the germs in their bodies and give them off in their urine and faeces.

WATER is charged with typhoid germs only when contaminated with human urine or faeces containing these germs, especially as carried in sewage. Natural removal of typhoid from water depends on several agencies:

1. As only one per cent. may survive six weeks in water, *time* is a great factor in the purification of polluted water.

2. *Sedimentation* (or settling) carries a great many to the bottom wherever the water is still enough to allow this.

3. The *natural water bacteria* are strong competitors of the typhoid bacteria, and their antagonistic effect on the latter is an important factor in the removal of these by natural agencies.

4. *Protozoans* (the simplest form of animal life), and *water-plants*, also aid materially in removing them. The natural purification of water is, therefore, a matter of *time* much more than of *distance*. As regards natural purification or so called "self purification" of water the vital question is not, "How far has this water come from sources of possible infection?" but "How long has it been in coming?" With the fuller, more recent knowledge of water bacteriology, the old dictum that "Running water purifies itself," has been revised and corrected to read "*Standing water purifies itself.*"

It may also be added that the *appearance* of the water is improved more quickly than the real condition is. The *apparent* purification is always very much greater than the *real* or actual purification, therefore *good-looking water may really be extremely dangerous*. Water containing typhoid germs is made perfectly safe by boiling it even one minute, as this kills all the germs without fail.

In MILK the typhoid bacillus finds one of the readiest ways by which it may reach a number of people and produce an epidemic, or at least an outbreak (the occurrence of a limited number of cases together). The typhoid bacteria multiply rapidly in sweet milk at room temperature (68 to 70 degrees). Cold, of course, checks the growth.

The dangerous character of milk as a typhoid spreader depends on three circumstances, viz.: First, its great liability to *exposure to infection*; second, its being a most excellent *culture medium* (or food) in which the germs can rapidly grow and multiply; and third, its being *used raw* for food or drink. It is most liable to become infected in three ways:

(a) From water used either to dilute the milk (which I believe is rare in Alberta) or to rinse the milk cans or other milk utensils after they are washed.

(b) From the dirty hands of a dairy employee who is a "typhoid carrier" or is convalescent from a mild attack, or is a so called "walking case" (suffering with the disease yet not confined to bed).

(c) By flies, which are so prone to "seek their solace and find their fate" in the milk or cream picher, seeding the contents with various kinds of bacteria, including quite possibly those of typhoid.

Of these three ways in which milk becomes infected, the second is by far the most dangerous. When it occurs, the health of all who use the milk from that dairy is endangered. Boiling the milk makes it quite safe, and this should be carried out whenever there is any danger of the occurrence of the disease.

ICE is not a very great menace as a typhoid container. In the first place the bacteria of all kinds, as well as suspended solids and even part of the dissolved solids in the water, are excluded during the freezing of the water. They are literally "frozen out." As the water solidifies into ice crystals, the impurities are not enclosed in the ice but are left in the unfrozen water. Ice formed in the ordinary way usually contains only about one per cent. as many bacteria as does the underlying water. This removal of bacteria from water by freezing equals purification by the best sand filtration.

In the second place, typhoid bacteria do not survive a low temperature long, but die out rapidly at the freezing point. Only ten per cent. survive one day in ice and only one per cent. survive two weeks. Stored ice is remarkably free from bacteria of all kinds.

The danger of ice being a source of typhoid, however, lies in the faulty method of handling it by which it is usually, yes, always, more or less contaminated by dirty boots, dirty wagons, dirty clothes and hands, dirty sidewalks, etc. If the butcher handled his meats as the iceman does his ice, we would not use them. Fortunately, the ice is continually melting and so being washed off by its own water, and it is seldom put into food or drink. Yet people often handle ice and then handle food ready for the table. On the other hand, meat is very seldom eaten without being cooked and thus being sterilized at least over its whole surface.

In general, typhoid fever is a rural rather than an urban disease, and many of the autumn cases are among returned vacationists just back from the country.

It is a curious fact that people who are away from home and drink water which is in regular and constant use by others, are much more apt to be infected or be ill than are the regular users of the water. These latter seem to acquire a "tolerance" or immunity towards the germs in the water they use daily. Everybody is familiar with the frequency with which strangers in a place are attacked by diarrhoea, almost always rightly laid to "drinking the water."

In FLIES, germs of various and many kinds occur on the feet and in the intestines of flies. These germs are thus apt to be deposited on any exposed food or object by the fly's feet or in the "fly specks." The typhoid germ will live twenty-three days in the fly's intestines.

The household fly has aptly been new-named the "typhoid fly." It reaches maturity in ten days from the time the egg is laid. A female fly lays 100 to 120 eggs. Assuming that one-half of each brood of flies are females and that there is *opportunity for their eggs to hatch* (manure piles, garbage, etc.) every female will produce 120 (first generation) in ten days, 7,200 (second generation) in 20 days, 432,000 (third generation) in 30 days, and 25,920,000 (fourth generation) in 40 days: a total of over twenty-six millions in 40 days from one fly. How very important it is then for every householder, and especially every stable keeper, to clean up and keep his premises clean.

Typhoid bacilli will live many months in moist soil, but probably do not multiply there. The germs can be carried by water eighteen inches through fine, closely packed earth. Organic matter or sewage in the soil seems to have little if any influence on the typhoid germs. The soil, dried to form dust, may retain living typhoid germs twenty-five days. Sunlight and freezing have very little effect on typhoid in the soil—it was found that 122 hours of direct sunlight during 21 days did not kill all the germs.

In many instances it has been proved that typhoid discharges thrown upon the surface of the ground or buried shallow in winter and exposed to freezing and sunlight for months have finally been transferred in spring to water used for domestic purposes and have produced wide-spread epidemics.

"**TYPHOID CARRIERS**" are persons who continue to harbour and give off typhoid germs after their recovery and convalescence from the disease, when they have returned to regular occupations. It is estimated that *five in every hundred typhoid patients become typhoid carriers* and may continue to give off typhoid germs for months or even many years after their recovery of good health. The infection in these cases usually remains in the gall bladder, and gall stone frequently has typhoid germs for a beginning. Two recent such cases are of special interest. "Typhoid Mary," discovered in New York, is a cook (or was), who, in the course of six years' service in seven different families infected twenty-six people, with fatal results in one case, yet she was all the while in good health herself. A more recently discovered instance is that of a woman who infected several boarders *fifty-one years after she had had typhoid*. Persons associated with typhoid patients may become infected with the typhoid germs and continue to harbour them and give them off for years *without developing the disease themselves*. (In this respect the typhoid germ is analogous to that of diphtheria, which may occur in the throats of well people without causing symptoms, yet readily infecting other people when transmitted to them.)

Such cases are especially dangerous when they exist among cooks, bakers or dairy workers, and their occurrence impresses us with the great importance of "defensive barriers" against typhoid. (See below.)

III.—The Soil.

Typhoid fever germs are propagated and multiplied—"grown"—chiefly *in the human body*, which may therefore be regarded as the field or soil best suited to the needs of these bacteria. People differ in their susceptibility to typhoid infection. Good health is to some extent a protection against it but as some persons even in full health are liable to attack, the only sure way to avoid typhoid fever is by either taking no food or drink containing the germs or if you cannot be certain that the food and drink are free from them then first boil or cook these. Typhoid bacilli probably do not multiply outside the human body, unless in the rare instances in which they get into milk. Insanitary conditions and bad water do not originate typhoid fever. They may favour the transmission of the germs from person to person, and may also render people more susceptible to infection if exposed to it, but it is to be emphasized again that each case of typhoid fever is due to the person taking into his mouth germs which have come more or less directly from some other person who has them in his body.

After the germs gain entrance to the new victim's body an interval elapses before any symptoms of the disease appear. This interval is known as the "inocu-

lation period." It varies from a week to four weeks, but is usually between two and three weeks. This time might be compared to the germination period for a grain crop, the interval between the sowing of the seed and the sprouting of the young plants till they appear above ground.

In order to economize space I have condensed into tabular form (Tables II, III and IV) the main facts regarding the spread and the preventatives of typhoid fever.

TABLE II.—ROUTES OF TYPHOID INFECTION AND MEASURES TO GUARD THEM.

Source of Typhoid Germs	Infected Discharges	Primarily or Directly Infected Objects	Secondarily or Indirectly Infected Objects	Usual Carriers to the mouth	Destination of the Germ
Typhoid patient or "Typhoid Carrier."	Faeces Urine Saliva.	<i>Water.</i> <i>Patient's Skin</i> <i>Clothing:</i> Bed clothing, patient's body clothing. <i>Fingers</i> of Patient, Nurse, Attendants, Visitors . . <i>Flies</i> <i>Vegetables</i> <i>Utensils</i> used in the sick room <i>Other "Rafts":</i> Books, Cards, Anything handled	Drink, Fingers, Milk, Food Utensils, Oysters, Vegetables. Hands and Clothing. Other laundry articles and hands. Mouth and Food. Food and Milk. Food. Fingers and Food.	<i>Drink.</i> <i>Food.</i> <i>Fingers.</i>	Mouth of new victim.
Guards: (<i>Sickroom Hygiene</i>): Trained nurse, or properly instructed home nurse and attendants. Cleanliness and free use of disinfectants. Exclusion of visitors.			Guards: (<i>Household Hygiene</i>). Household cleanliness. Protecting all foods. Disinfection of premises. Clean Cook's hands.	Guards: (<i>Personal Hygiene</i>): Personal cleanliness. Cleanly habits. Clean hands at meals. Good health, good food and fresh air. Put nothing into your mouth or to your lips, except cooked food or drink. Avoid excess of any kind or anything.	

In well organized communities, where typhoid is properly dealt with, there are two sets of barriers (See Tables III and IV), the typhoid germ has to pass to get from patient to new victim, namely: 1. The *enclosing barriers* to prevent the germs getting abroad or being at large; and 2. The *defensive barriers* which protect well people against invasion by any germs which may get past the enclosing barriers.

TABLE III.

1. ENCLOSING BARRIERS.—Surrounding the patient (who is the stronghold or fortress of the enemy). These constitute the offensive tactics in the warfare on typhoid, being directed to the destruction of the enemy lodges in known places. The aim is to prevent the escape of even a single enemy into the open. These barriers are three-fold as regards the persons responsible for their effective maintenance.

Stronghold	Exits	DEFENSES		
		Physician and Nurse: <i>First Line of Guards</i>	Householder: <i>Second Line of Guards</i>	Public Health Authorities: <i>Third Line of Guards</i>
Typhoid patient or "Typhoid-Carrier."	Urine Faeces Sputum (Mouth and Nose Discharges)	Isolation of patient. <i>Disinfection of—</i> 1. Urine before voiding (by urotropin) and after being voided. 2. Faeces. 3. Oral and Nasal discharges rigorously prohibited. 4. Hands: Nurse's, doctor's, visitors', patient's. 5. Clothing, wash water, food, rem- nants, utensils, used in sick room. <i>Report case promptly to Board of Health.</i>	General Cleanliness. Cooking all food and drink War on flies in { Sick room { Privy { Manure Food protection in { Kitchen { Dining- { room { Pantry Disinfection of premises.	Supervise disinfection, disposal of urine, etc. Furnishing aids to diagnosis: Widal test. Instruction to sick families. Epidemiological investigation to ascertain cause and channels of infection in every case. Sewage disposal. Prevention of pollution of water. Public Health Legislation.
		N.B.—If these measures were efficiently maintained no infection would pass beyond the sick room and no second case would occur except by "Typhoid Carrier."		

TABLE IV.

2. EXCLUDING BARRIERS or defensive tactics, having reference to the well people and directed to the prevention of the admittance of any of the enemy along the recognized routes of infection.

First or Outer Set of Defenses—Duty of Public Authorities.	Second or Middle Set of Defenses—Duty of the Household.	Third or Inner Set of Defenses—Duty of the Individual.
Watchword: "<i>Sanitation</i>" (<i>Public Hygiene</i>). General Sanitation. Regulation of privies. Disposal of night-soil, garbage and manure—which all breed flies. Pure water supply. Supervision of public water supply. Inspection of dairies and milk distribution, garden truck, shellfish and ice (Source, storage, distribution, etc.). Education of public regarding typhoid. Legislation.	Watchword: "<i>Cleanliness</i>" (<i>Household Hygiene</i>). Kitchen cleanliness, and especially cleanliness of the kitchen workers. Protection of food from flies or soiled hands. Pure Water—Public supply safest. Private well if used must be rightly placed and protected. Selection of safe supply of milk, oysters, raw fruit and vegetables. Fly screens for windows and doors. Protected privy pail (or better pit). Privy pails are dangerous. Protection and removal of manure. Clean yard. Boiling the water to drink. Sterilization of milk. Hospital care for typhoid cases, to avoid "contact."	Watchword: "<i>Defend the mouth</i>." (<i>Personal Hygiene</i>). Personal cleanliness. Good health. <i>Avoidance of excess of work, exercise, food or of anything that in excess lowers resistance powers.</i> Selection of safe food and drink. Care in travelling and in visiting sick. Anti-typhoid vaccination. This is a preventative measure against typhoid which is made use of only where large numbers are liable to exposure, as in military camps.

"Contact" infection is the most frequent way in which typhoid spreads in a household, where one member after another comes down with it. (See Table II.) Probably the majority of cases of typhoid fever in Alberta are due to contact infection. People do not know how "catching" typhoid really is and consequently do not take precautions against being exposed to infection in this way. There is always a "first case" in any outbreak and in every instance an effort should be made by the medical attendant and the health authorities to discover this case as well as the subsequent ways in which the spreading occurs. Too commonly the well (or the water) is blamed offhand and a chemical and bacterial examination thought of as the only solution to the mystery. For very good reasons the most accurate and painstaking analysis of the water may be negative even when it was the carrier of the infection. *Water is usually infected only temporarily and all trace of this may disappear before the typhoid develops and is diagnosed, and hence long before an examination of the water is thought of.* But the question raised should be "*Where did the infection come from and how*" not merely, "*Is the water to blame?*" The latter questions may come up in the course of finding an answer to the former and larger one which should always be asked first.

Destroying the Seed.

This is accomplished by *Disinfection*, that is, killing the germs. There are four ways of doing so and each has its special advantages.

1. *Fire* or burning; this is a good plan for remnants of the patient's food, for old bedding, old handkerchiefs or clothes used as such; also for toilet paper and the bowel discharges mixed with saw dust.

2. *Dry Heat*.—A temperature of 300 degrees F. in one hour kills all germs situated on the surface of objects but does not kill those in the interior of articles

or bundles. This method is suitable only for articles that are dry and that are not injured by heat, such as metal, glass, earthenware, etc. It is little used outside of bacteriological laboratories, but might be used anywhere, by utilizing the kitchen oven and placing a piece of dry cotton batting inside the object to be sterilized. When the cotton is slightly browned the sterilization is complete.

3. *Hot water and steam.*—Boiling water or "live" steam in a few minutes will sterilize forks, spoons, plates, food-remnants, linen, underwear, handkerchiefs, bedclothing, etc., used by the patient.

4. *Chemical Disinfectants.*—For water closets, chamber vessels, cesspools and generally out-of-doors, fresh slaked lime (especially in the country) and chloride of lime are the most suitable; one part of slaked lime to eight parts of water makes a good mixture, known as "milk of lime." *Old lime and air-slaked lime may be used for absorbing liquids but are useless for disinfecting purposes as they are simply so much chalk.* Carbolic acid, 1 per cent. to 5 per cent. in water, and bichloride of mercury ("corrosive sublimate") one part in 1,000 or 2,000 parts water, are both excellent to use in the sick room, especially about the patient's body and to wash hands. The bichloride is very poisonous and being colorless and non-odorous it should have potassium permanganate or ordinary laundry bluing added to it to mark it. As it destroys metals it may be used only in earthen, glass or granite-ware vessels.

It has been said that for every case of typhoid some one ought to be hanged. The recent recognition of a large duty which the medical profession owes to the public has changed this to read: "*For every case of typhoid some one should be educated.*" The explanation of the spread of typhoid fever is expressed in the two words, *ignorance and neglect*. These are reasons but not excuses in these days when knowledge can be so readily disseminated. It is now known that *typhoid is a preventable disease but not curable*. And an ounce of prevention in a preventable disease is worth tons of cure if the disease is incurable. It is better to have the cook wash her hands than to be treated by Osler for typhoid.

TUBERCULOSIS.

This disease is spread mainly in two ways: 1. *By the sputum of persons with pulmonary tuberculosis*—so called *consumption* or *phthisis*. 2. *By the milk of tuberculous cows*.

People may have tubercle bacilli in their sputum and be about and at work for months or even years, mixing with the general public, and if they are careless in their habits, they are one of the most serious menaces to health that there is. The danger is especially great to those most intimately associated with the tuberculosis person, especially if the latter coughs much. The tubercle bacilli are carried in the fine spray which is projected from the mouth by coughing and may float about in the air for some time and be inhaled. A handkerchief should always be held before the mouth when coughing. When the sputum dries on the floors, carpets, sidewalks, etc., it is easily converted into dust, raised into the air and inhaled.

Bacteriologic examination readily reveals the presence of tubercle bacilli in sputum. Such examinations are a part of the routine work of this laboratory and are therefore gratuitous.

The danger from sputum can be minimized by—

1. Education of the public regarding the great danger in infected sputum if not properly disposed of;
2. Legislation prohibiting indiscriminate spitting in public places.

The danger from infected milk may be avoided by using milk only from healthy cows, or if it can not be certainly ascertained that the milk is above suspicion, it should be pasteurized. This is done by heating it for twenty minutes to 140 degrees Fahrenheit. It should not be boiled. After the heating it should be rapidly cooled and kept cool till used. Pasteurized milk spoils more readily than unpasteurized milk.

Another prolific source of infection both of tuberculosis and of diphtheria is the use of a drinking cup in common by several

persons as is the custom in schools, railway cars, stations, etc. No doubt many people are infected every year by this avoidable practice. Other diseases besides diphtheria and tuberculosis are thus conveyed from person to person—notably typhoid fever, influenza, scarlet fever, ordinary sore throat, etc. People when travelling should either carry their own drinking cup or refrain from using the public cup, drinking only at meal time. School children also can be easily taught by their parents to *drink only at home, before and after school hours*.

It is probable that everybody is so exposed to infection with tubercle bacilli that at some time or other everyone is infected and harbours these germs ready to thrive and set up tuberculosis if opportunity occurs by any cause lowering one's general health—the resistance to disease is lessened by colds, overwork, indigestion, lack of ventilation, such diseases as measles, typhoid, influenza or grippe, etc. The best preventative of tuberculosis is good health; this can be maintained by *fresh air, proper food, a right amount of work and cheerfulness*.

DIPHTHERIA.

For the diagnosis of the presence of the diphtheria bacillus 222 specimens were examined at the laboratory during the year 1908. Of these 90 were positive. Among the negative are included those for *release* from quarantine. Specimens for *diagnosis* are examined immediately on receipt and if not positive are submitted to two or three further examinations after culture and incubation. Thus one specimen may be examined several times and the total number of examinations, therefore, much exceeds the number of specimens.

Bacterial examinations for the diphtheria bacillus are made to ascertain its presence or absence in: 1. *Suspected* cases of diphtheria. 2. *Doubtful* cases of "sore throat"—which *may be* diphtheria. 3. "Contact cases"—persons *exposed* to infection by association with a diphtheria patient. 4. For *release* of quarantined patients after recovery. Specimens for *diagnosis* are reported on as soon as possible after receipt. Those for *release* are given full incubation before a negative report is given, because it is necessary to be sure that the germs are absent.

The germs for diphtheria may persist for weeks or even months after all symptoms of the disease have disappeared. Persons associated with others having diphtheria are very liable to harbour the germs in their throats and may therefore either develop the disease themselves later, or *without becoming ill may transfer the germs to other people* who thereupon become ill. The source of the disease in these latter is, therefore, more or less mysterious and in consequence often mistakenly attributed to bad drainage, defective drains, foul gases, etc. Nearly all infectious and contagious diseases are most frequently conveyed from *person to person*, i.e., *from sick or infected person to susceptible person*. Occasionally in case of diphtheria, typhoid fever, scarlet fever and smallpox, there is an intermediate person who transfers the infection without developing the disease himself, and still more rarely the infective agent may remain on inanimate objects (so called *fomites*) for a time. The most recent advances in our knowledge of infectious diseases show that these usually have their origin in *infected persons* rather than in *infected places*, and as a general rule cases of diphtheria, typhoid fever, tuberculosis, measles, smallpox, etc., *are due to contact more or less direct with a person having the disease or harbouring its germs*.

It is true that there are various and numerous carrying agencies, especially of such a disease as typhoid, but such diseases do not arise spontaneously from so called "unsanitary" conditions. Each case has a close connection with some other pre-existing case of the same disease. As it is of the first importance in the protection of the health and lives of the people that every case of infectious and contagious disease be early and certainly recognized, especially diphtheria and typhoid, it is highly desirable that full advantage be taken of the examinations made by the laboratory to aid in the diagnosis. Cases of true diphtheria are not seldom regarded and treated as ordinary sore throat, and on the other hand, non-diphtheria sore throat is sometimes mistaken for diphtheria. Bacteriological examination is in most of these cases *the only means of quickly and certainly deciding the true nature of the disease*, thus avoiding the ill-consequence of either of the above mistakes. *Antitoxin is a certain and safe cure for diphtheria if used early and in sufficient amount.*

RABIES OR HYDROPHOBIA.

No case has been reported in 1908 in Alberta but as the disease is increasingly prevalent in the Eastern United States and occurs in many Western States and some Canadian Provinces, it is liable to be introduced here at any time. The public, and especially all sanitary and police authorities, should be informed as to this malady and the right procedure regarding suspected cases. Rabies is communicated almost exclusively by the saliva of a rabid animal, usually in bites but possibly also by the saliva coming in contact with a scratch or other break in the skin of one's hand. Dogs of all kinds (including wolves, coyotes and foxes), cats, sheep, pigs, cattle and horses are all subject to rabies but it is perpetuated and spread almost wholly by the dog kind.

The Symptoms of Rabies in the Dog: *Rabies occurs in two forms, a *furiosus* and a *tranquil* or paralytic form.

(a) *The furious form.*—In this the first signs are change of disposition, with distress or uneasiness and restlessness. The dog is easily excited but does not at first show a disposition to bite. He still obeys orders, but less readily. He soon seeks solitude and is inclined to hide in dark corners or burrow in his straw bed. At times he shows marked excitement. He may be more affectionate than before but is easily irritated, especially by strangers. His appetite is still good or even excessive. Later the restlessness increases and the dog is constantly moving about and may tear carpets, etc., and show signs of delirium, apparently seeing imaginary objects or attacking an imaginary enemy. He still responds to his name but is inattentive. The voice becomes changed in a very typical way. Instead of a clear, sharp, natural bark, the latter part of the sound has a prolonged and high pitch, passing into a plaintive cry like that of a dog fatigued in the chase, and in the succeeding sharp barks the jaws do not close completely as in ordinary barking. Some dogs, however, remain quiet and cannot be made to bark. Next, the appetite diminishes, food is taken with difficulty or refused as swallowing becomes painful. The dog may appear to have a bone stuck in his throat and sometimes the very dangerous attempt is made by the owner to remove the supposed bone. *There is no fear of water*, which may be taken greedily until paralysis of the throat

62.) * (This description of symptoms is condensed from Osler's *Modern Medicine*, Vol. III, page

makes this impossible ("hydrophobia," or fear of water, is a term properly applied to this disease only in the human being). Next, the excitability increases to fury. Sticks or other objects are angrily seized if presented to the dog. If at liberty he attacks anything in his way, swallowing pieces of wood, paper, straw, stones, etc., the presence of which in the stomach after death is a striking feature. The dog begins to wander, running with his tail hung, mouth open, and having a wild look. He attacks everything that comes in his way but as a rule runs straight ahead and does not turn aside to attack animals. He may travel great distances, even 30 or 40 miles but is apt to return home exhausted and bloody. Paralysis soon sets in, appearing at first as weakness in the hind legs and becoming general so that the dog is not able to stand. He becomes very stupid but may be aroused. The stupor increases and ends in death which occurs in six to ten days at the outside, usually four to five days after symptoms first appear.

The paralytic type or "dumb" rabies is less common than the furious type. The commencement is the same but the fits of fury do not occur. For some days the dog is restless, seeks seclusion in dark places. As a rule the jaw is the first part paralyzed, the dog being unable to close its mouth and its tongue hanging out. The saliva runs freely from its mouth. It cannot take water and is in a most pitiful condition. The mouth becomes dry, covered with dust and coloured brownish. The dog is quiet and cannot be provoked and does not seem to wish to bite. The disease progresses rapidly and death occurs on the second or third day. Sometimes the two types may be mixed, a short period of fury being rapidly followed by paralysis, or the paralysis may be slow in its progress and a disposition shown to attack when irritated. In dumb rabies the dog never wanders and being unable to bite is much less dangerous.

The saliva of a rabid dog is infectious a day or two before any symptoms of the disease show. *Therefore a dog that has bitten any person should never be destroyed at once* but should be kept at least two days to see if it shows any signs of rabies. The Pasteur treatment will prevent the development of hydrophobia after a bite by a mad dog, but the treatment must be begun within a week or so after the bite. It is therefore most important to decide as quickly as possible whether a dog that has bitten a person is mad or not. He should be safely shut up (or chained up in a shed or enclosure such as a box-stall) and given plenty of food and water. If he can be kept alive eight days or if he gets well, he is not mad and there is no need for any person bitten by him to take treatment. If the animal dies with suspicious symptoms the head should be at once packed in ice and expressed prepaid to this laboratory. The stomach should also be opened and its contents noted.

The control of rabies is provided for by the Dominion Animal Contagious Diseases Act, and all cases of rabies or suspected rabies should be promptly reported to Dr. J. C. Hargrave, Medicine Hat, chief veterinary inspector for Alberta.

OTHER COMMUNICABLE DISEASES.

Alberta is, fortunately, free from several diseases such as malaria, yellow fever, plague, hookworm disease, etc., which cause great loss of life and economic losses in many other parts of this continent.

Although seven deaths from malaria are reported in the mortality statistics for this province for 1907 the diagnosis is open to question as this disease probably does not occur in Alberta, and all the patients were under one year of age. Malaria (or "ague") is caused by a germ which is inoculated by the bite of a mosquito which has previously bitten a person with malaria. This disease can, therefore, be prevented by: 1. Protecting malaria patients from mosquitoes or, rather, protecting mosquitoes against infection from biting malaria patients; where there are no infected mosquitoes no person can be infected. 2. By the destruction of mosquitoes; where there are no mosquitoes malaria cannot be transmitted. There seem to be no such infected mosquitoes in Alberta but various kinds of this insect are abundant in many parts of the province and are in themselves an annoyance and pest which should receive intelligent attention directed to their ultimate extermination.

Other animals than human beings *may* have malaria—we do not know—and so serve as sources from which people are infected. The germs of some other diseases are also inoculated by mosquitoes. This is most notably true of yellow fever, but knowledge as to what other diseases are so transmitted is, as yet, far from complete. In any case the mosquito is a pure evil and should be exterminated by systematic and continued efforts.

The matter of mosquito extermination is a gigantic problem in a new country. The only effective means lies in the prevention of their breeding, and proper attention should be given to their breeding places, namely, the collections of *stagnant water* in which eggs are laid and hatch. The most successful preventative is drainage to remove all stagnant water. Where this is not practicable and in the case of small collections of water near dwelling houses, kerosene may be poured on the surface of the water, using about an ounce to each 16 square feet of surface (4 feet square) and renewing the application once a month. This forms a thin layer on the water and not only kills the eggs and the larvæ but also prevents the adult mosquitoes from laying eggs in the water. It seems probable that the mosquito may be carried by winds but does not fly very far from its breeding place; therefore, special attention should be given to all collections of water about dwelling places, as in barrels, tanks, old tin cans, broken bottles, old shoes or rubbers, etc., which should be emptied or screened, treated with kerosene or destroyed. For building sites it is advisable to choose high, well drained locations.

For combatting the adult mosquito, the house or living room and the person may be screened by mosquito netting or the mosquito may be driven off or destroyed by the odors of turpentine, menthol or camphor, or by the fumes of tobacco, pyrethrum powder (Persian insect powder) or burning sulphur in closed rooms. The mosquito may also be repelled by anointing the skin with the oils of pennyroyal, eucalyptus or anise, or with camphor or kerosene. An excellent mixture which may thus be used on the hands and face consists of *one part of cedar oil, two parts oil of citronella and two parts of spirits of camphor*. Any of these may also be used for horses and cattle, applying the oil or mixture to those parts from which the animal cannot switch off the mosquitos with its tail. Another effective mixture contains *oil of pennyroyal one part, oil of tar two parts and olive oil sixteen parts*. This is also good to ward off black flies. For farm animals instead of olive oil there may be used, in the above mixture, either raw linseed oil or the cheaper cotton-seed oil.

II.—MILK.

Examinations are made to ascertain butter fat, total solids, specific gravity, presence of preservatives or adulterants, bacterial content, especially tubercle bacilli, and foreign solids. Probably too much attention is paid by consumers to the percentage of butter fat while the more important matter of *cleanliness* is neglected. The latter can be properly secured and maintained in public supplies *only by adequate dairy inspection including the whole system from cow to consumer*. Unhealthy cows, bad stabling, unclean milk houses, improper handling in delivering, etc., can be most certainly and quickly detected and corrected only by *inspection*. When buying butcher's meat people do not fix their attention exclusively on the amount of fat; and so in regard to milk, a "rich" milk may be very dirty and undesirable, while a milk "poor in fat" may be otherwise (and hygienically) excellent and hence preferable to the former.

Another very common mistake about milk is in keeping it too long. Milk to be used "whole" or unskimmed should be used as soon as possible—before the next supply is received. Only milk from which the cream is to be taken should be kept longer. However, in Alberta, the most important problem about milk is to have it *free from tubercle bacilli*. This can be effected only *by excluding all diseased cattle from dairy purposes and from contact with milch cows*. The climate of Alberta makes it an easy matter to keep milk good if it is from healthy cows and good to start with.

Contamination with typhoid or other disease germs is also a danger which milk carries and which can be avoided by having only healthy, cleanly employees to handle the milk throughout, in the dairy stable, milk house, delivery wagon and kitchen.

III —WATER INVESTIGATIONS.

Of these, 20 were made in 1908, including chemical analysis and bacterial tests. The *general purpose* of these is to safeguard the public health in so far as it is dependent on purity of water supply.

The *specific purposes* are: 1. To ascertain potability or contamination of given water supplies either *in use or proposed for use by the public*, or *reasonably suspected of carrying disease*. 2. To obtain *comparates* for Alberta waters. ("Comparates" are the analytical findings of analyses of waters from various sources and known to be pure in some instances and contaminated in others. Those of known purity are the most important.)

In municipalities and villages such examinations are undertaken on request of local public health authorities, elsewhere usually on request of the family physician.

When occasion arises for examination of water supply the laboratory should be notified and furnished with a full statement of the reasons for an examination of the water being requested. If the circumstances warrant an investigation, outfits and directions are furnished by the laboratory.

The analytical findings from a single sample usually have little value. The significance or "interpretation" of the analysis can be ascertained only when studied in the light of comparates. To obtain comparates is therefore a prerequisite and this must be undertaken generally preliminary to or coincident with the study of any given water source.

Promiscuous samples sent by physicians or others are almost invariably not suitable because:

1. Usually such are not proper samples as to *amount, containers, manner of taking*, etc. As analysis utilizes very delicate methods the sampling must be rigidly controlled. "Briefly, the labourious chemical analysis of water not secured in the proper manner, is injudicious and wasteful of time and money."—*F. F. Westbrook, Director of the Minnesota State Board of Health Laboratory.*

2. Even with a good sample to work on, the analytical findings have little, if any, meaning to the person for whom the analysis is made, and to interpret them it is necessary to have for comparison the results of many analyses from the same vicinity from sources of known purity or contamination (so called "comparates").

3. Bacterial examination of a water supply is of great value in determining its quality, but must be commenced very soon after the sample is taken, and meanwhile the sample should be kept on ice. It is highly desirable, if at all possible, to have the bacterial study begun in the field by a trained laboratory worker at the time of collection of the sample.

4. It is impossible to pass judgment on a water sample without having full and correct data relative to its source. It is often impossible or very difficult to get such data. Consequently the analysis of a miscellaneous sample is of no value in working out a basis of comparison for other samples.

5. Very often a well or spring may be condemned or approved *by an intelligent inspection of it and its environments* and the loss of time consumed in making unnecessary analyses of doubtful value is then avoided.

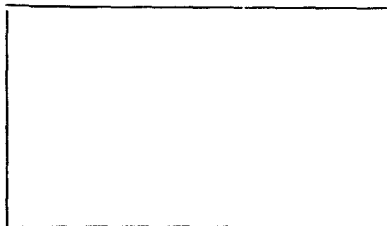
6. Owing to the magnitude of the systematic study of the waters of the province and the limited facilities for carrying this on it is thoroughly advisable to avoid wasting any time and energy on the analysis of heterogeneous samples, taken improperly, forwarded without data, and at best of only very doubtful value to a few people.

The following information is necessary regarding each sample of water:

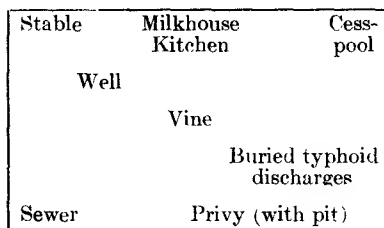
- Data and certificate for water sample No. _____
 Dated. _____
(As given on the identification card.)
1. Sample collected and sealed by. _____
 Address _____
 Official position.
 2. Medical health officer's name _____
 Address _____
 3. Owner of well or source of sample _____
 Address.
 4. Collection of sample authorized by _____
 5. Reason for asking an analysis
 6. Date of collection _____ Hour _____
 7. How collected (directly or by dipper).
 8. Rainfall during previous seven days
 (None, small, much, or great)
 9. Source of sample *(lake, stream, pond, reservoir, spring or well)*.
 (State which and give name if it has a name.)
 10. Location of same: Range. Tp. Section. 1 Sec.
 11. If the sample is from a river or pond, state:
 - (a) Exactly where sample was taken from
 - (b) Total depth of water where sample taken.
 - (c) Depth at which sample was taken.
 - (d) Distance from shore at which taken
 - (e) Direction of wind

- (f) Temperature of air when sample was taken . . . degrees Fah.
 (g) Temperature of water source when sample taken . . . degrees Fah.
12. If the sample is from a well, state:
- (a) Its total depth.
 (b) Depth of water in well
 (c) Was well driven, drilled, bored or dug?
 (d) Date of making the well
 (e) Materials of curbing or lining
 (f) Thickness of same
 (g) Inside dimensions of same
 (h) What layers of soil were successively passed through in sinking the well?
 (Give thickness of each layer)
- (i) Is there a pump? (j) Iron or wooden?
 (k) Kind (l) Type of pump
 (Suction, force, turbine, etc.)
- (m) If there is no pump, how is the water drawn?
 (n) Has the well a cover?
 (o) Materials of cover (p) Dimensions
 (q) Conditions
 (r) Are there any holes or openings in the cover of well?
 (s) Does spout carry drip water beyond top of well?
 (t) Is the well guarded by a fence?
 (u) Do chickens or other animals pass over the well?
 (v) Is it a seepage well, a spring well, or a flowing well?
 (w) If in a city, town or village, give street No
 (N.B.—If possible send a map showing exact location of well.)
13. How many persons are using the water? How long?
 14. How many cattle, horses, etc., are using it? How long?
 15. What ill effect, if any, does the use of the water cause?
16. Has the water any odor? What like?
 17. Has the water any taste? What like?
 18. Is the supply of water from this source sufficient for its purpose?
19. How much water per day is available from the source?
 20. What "head" has the supply?
21. If the water is from a reservoir, state: (a) Its length.
 (b) Width. (c) Depth (d) Materials of walls
 (e) Bottom.
- To what possible sources of contamination is the water exposed before it
 comes into the reservoir?

DIAGRAM OF VICINITY OF WATER SOURCE.



EXAMPLE.



Give any additional facts regarding the water that you think are important

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IV.—MISCELLANEOUS.

At the American Public Health Association meeting in Winnipeg, in August, I presented a paper on "Health Problems in Alberta."

This may be found in the published proceedings of the Association and also in the American Journal of Public Hygiene. This Association is truly American in its extent, embracing Canada, United States, Mexico and Cuba as the territory of its membership and including the leading men in public health work, all of whom take an active interest in the aims of the association. Members receive without cost, the quarterly "American Journal of Public Hygiene" and a copy of the proceedings of the association containing all the papers read before it at the general meeting. These are valuable additions to the library and fortunately the laboratory has been able to obtain nearly complete sets of these publications.

It is earnestly to be hoped that the not distant future will bring the association to Edmonton for one of its annual meetings by which immense stimulus would be given to all sanitary matters in Alberta. Meanwhile an association along somewhat similar lines might be organized in a simple way in this province in order to systematize and foster public health work.

In December an addition to the laboratory staff was made in the appointment of a chemical assistant. This has made possible a very considerable increase in the amount of work undertaken. The routine technical work in both chemistry and bacteriology requires continuous and uninterrupted attention to do it properly and satisfactorily, and it is advisable in the best interests of the important work carried on by the laboratory to have also a well qualified bacteriological assistant. He could do much of the routine, especially in the bacteriological investigations of water supplies and also carry on original research work on problems bearing on conditions within or peculiar to this province. My occasional absence from the laboratory on medico-legal and other official work, sometimes covering a period of a week or more, also makes this second assistant highly desirable.

CORRESPONDENCE.

Exclusive of circular letters and reports there were 812 letters sent and 553 received. For the most part these dealt with routine matters but many related to matters regarding which information was asked and given when possible, but which do not belong in the scope of the work undertaken in the laboratory.

FOR THE DEPARTMENT OF THE ATTORNEY GENERAL.

Forty-three analyses of liquors and several medico-legal examinations were made for the Department of the Attorney General in connection with the administration of The Liquor License Ordinance and the Criminal Law.

ALFALFA INOCULATION.

Material for inoculating alfalfa seed or soil and directions for using it were sent to thirty-eight farmers. The amount of seed sown by each of these farmers varied from 5 to 100 pounds. Reports on the results were received from twenty-five of the thirty-eight at the end of the season. Many of these stated that the crop had done well. With others it did not succeed. A number tried uninoculated plots as well for comparison, and of these some were inferior to the inoculated, while others showed a growth equal to that on inoculated plots. Four experimental plots were made at the

Provincial Government nursery, Edmonton. Of these one was uninoculated and three were inoculated, one with soil and two with culture added to the seed. All four plots showed a good growth, about equal in all. Some plants in each plot were found to have typical nodules on the rootlets. In the case of the uninoculated plots these must have been due to bacteria naturally present in the soil.

Alfalfa is a very valuable crop for farmers because it contains so much proteid. Proteid is a very necessary kind of food for animals, which unlike cellulose and starch (the other chief constituents of plants) contains much nitrogen. The amount of nitrogen required by alfalfa plants is greater than is contained in the soil and if the plants are to thrive well they must get nitrogen from the air. They cannot use the free nitrogen of the air direct, but certain kinds of bacteria can utilize this free nitrogen as food, building it up into compounds which the alfalfa in turn can utilize as food, hence these bacteria are called "nitrifying bacteria." They cause little nodules to form on the rootlets of certain kinds of plants, especially the leguminosae, or legume family, including clovers of all kinds, beans, peas, vetch, etc. To examine for the nodules on the roots the plants should be dug up and the soil gently shaken off the roots to avoid breaking off the nodules, as these are easily detached from the roots. It does not do to pull the plants out of the ground. The nodules are little whitish, round masses, varying in size but not larger than one-third of a grain of wheat. They occur singly or in clusters. Very few may be found the first season. Little if any benefit is noticeable in the growth of alfalfa until the second season. The nitrifying bacteria are not of any use on land containing an excess of alkali.

The plants furnish lodging places for the bacteria whilst deriving necessary food from the bacteria. This mutually beneficial association of the plants and the bacteria is termed *symbiosis* as distinguished from *parasitism* in which only one of two kinds of associated organisms benefits by the association, the *parasite* deriving nourishment from the *host*. The nitrifying bacteria occur naturally in many soils but usually in small numbers unless some kind of leguminous plant is present to furnish them lodging place and conditions for multiplying abundantly. Where clover grows well the soil is soon loaded with these bacteria and such soil can be used to inoculate fields in which the bacteria are lacking and which will not produce good crops of clover.

I would suggest that every farmer be advised to make such a nursery plot from which later to inoculate fields for growing alfalfa. Doubtless in many parts of the province the soil naturally contains the necessary kind of bacteria though perhaps not always in sufficient numbers to give a good yield of alfalfa the first season. Every farmer should sow a small plot of alfalfa to test his soil, choosing land with a gentle slope and not subject to flood. Alfalfa will not thrive on soil with an excess of alkali nor usually on new soils, but does best on well cultivated soils.

D. G. REVELL,
Director.

ANNUAL REPORT, 1908

12.—APPENDICES.

APPENDIX A.

ALBERTA HORSE BREEDERS' ASSOCIATION.

NINTH ANNUAL REPORT.

HON. W. T. FINLAY,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the ninth annual report of the proceedings of the Alberta Horse Breeders' Association, for the year 1907.

The annual meeting was held in the City of Calgary on March 25th, 1908.

REPORT OF THE SECRETARY FOR 1907.

GENTLEMEN,—I beg to present to you the ninth annual report of the transactions of the Alberta Horse Breeders' Association for the year 1907.

The Market Conditions.

It was not surprising that the condition of the money market during the fall of 1907 affected the market for live stock as well as other industries. The horse market was in a very flourishing condition during the early part of the year, but experienced a severe check in the fall, and prices at the end of the year ranged possibly 15 to 20 per cent. lower than during the spring and summer. The outlook at the end of the year, however, indicated that the present prices would improve almost as rapidly as the prices decreased in the fall. In the face of the rapid development of the West, which will doubtless be very little affected by the recent condition of the money market, it would appear reasonable to expect a rapid revival of brighter times, which will favourably affect the horse market as well as other branches of live stock.

Purchase of Army Remounts.

In the fall of 1906, your president, Mr. John A. Turner, again interviewed the British War Office authorities with the hope of again interesting them in the purchase of army remounts in Canada. It was found, however, that owing to the high price of horses in Canada, it would be impossible to purchase horses here and land them at their destination at a satisfactory price, and the authorities therefore decided not to send out a purchasing commission during 1907.

Spring Horse Show.—The Sixth Annual Provincial Horse Show.

The horse show which was held on the 1st of April, 1907, was the best ever held by the association. The entries numbered 105, which is an increase of about 40 over any previous year. The entries were made up as follows:

Clydesdales, 50; Percherons, 2; Thoroughbreds, 4; Standard Breds, 11; Riding and Driving Horses, 24.

The horses were of a very superior quality, and competition was very keen in most of the classes. I attach hereto a list of the prize winners, showing the name of the horse and owner, and his address.

An effort was made to have an evening horse show in connection with the 1907 show, but as there was not suitable building at the disposal of the board, it was found necessary to postpone this feature.

A large new sale building has since been erected, and it was expected that an evening horse show would be held in 1908, but owing to preparations which are going on for the Dominion Exhibition, it was not practicable to make an admission charge, and there would therefore not be any way of meeting the extra expenses of an evening show, where it would be necessary to have a band, etc. It was felt by the executive committee that it would not be possible to get a large evening attendance at so early a date as the building would be very cold unless the weather was very mild.

Financial Statement.

The financial statement shows a deficit of \$331.57 up to the end of 1907, against a deficit of \$435.67 at the end of 1906. While the deficit is reduced \$104, it is still evident that more funds are necessary to carry on the work of the association.

In making up the prize list for the Spring Horse Show for 1908, the prize list was arranged so that it is expected the deficit will be reduced next year by about \$100 or \$150.

The thanks of the association are due the Dominion and Provincial Governments for the annual grants. The Alberta Government have increased the annual grant of the association from \$200 to \$400, and while this increase will be of very material assistance, in reducing the deficit from year to year, the expenses of the show are annually becoming greater, and I would strongly urge that arrangements be made for the sale of hay to exhibitors direct. No doubt on this basis a considerable amount of hay would be saved, and the expense of supplying hay would rest directly upon the exhibitor instead of on the association. This method would assist in reducing the expenses of the association.

It was the intention of the Dominion Government to discontinue the annual grant of \$650 to the Alberta Live Stock Associations until the rules of the shows were so arranged that residents of Canada would be able to enter stock for same. The matter of the deficit was explained to the Dominion live stock commissioner, and I have been informed that in view of the financial condition of the associations, the honourable Minister of Agriculture had decided to pay the grant this year on the understanding that the grant will be discontinued unless the rules are changed, so that the work of the associations will be more Dominion in scope. This grant will be divided equally between the Alberta Horse and Cattle Breeders' Associations.

Regarding the rule which requires that a person wishing to join the association, or enter stock in the horse show, must have been a bona fide resident of and own property in the province for at least six months, you are aware that this rule was arranged to discourage the bringing in of inferior stock from the United States. It is a well known fact that in a large number of cases, the stock brought across the line are animals which are of very little value, and in many cases could not be sold in the United States owing to their reputation. It is impossible for buyers in Alberta to get any breeding record of these animals, and in many cases they have been induced to purchase at high prices, and after they find out that the animal is not what it was represented to be, the person they bought from has returned to the States, and the buyer finds it practically impossible to get any redress. While it is necessary to have the rule referred to in order to prevent irresponsible dealers from the United States making use of this method for disposing of their animals, there would appear to be no reasonable objection to allowing residents of Canada entering horses at the show if they desired.

The president, John A. Turner, vice-president, David Cargill, and the undersigned, attended the Canadian National Live Stock Convention at Ottawa, February 5th to 7th, as representatives of the Alberta Horse Breeders' Association. A considerable proportion of the time of the convention was taken up discussing problems of interest to the western delegates. The report of the convention and the discussions will be printed in due course, and no doubt each of you will receive a copy of same, and it will therefore be unnecessary for me to discuss the matter at length in this report. The delegates also attended the annual meetings of the various breed societies in Toronto, and endeavoured to impress upon these associations the necessity for giving the western provinces adequate representation on their boards of directors. The majority of the representatives and the members of the various breed societies which eastern Canada has over western Canada, is every year becoming very much smaller, and as a consequence our representation should be increased from year to year. Your president brought this to the attention of the meetings very forcibly on several occasions, and it is hoped that a strong delegation can attend these meetings annually to look after the interests of the western breeders.

Respectfully submitted,

E. L. RICHARDSON,

Secretary and Managing Director.

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FINANCIAL STATEMENT, 1907.

Receipts.

Membership fees	\$53 00
Donations	275.00
Entry fees	223.15
Advertising in catalogue	45.00
Gate receipts	60.70
Grants	616.75
Overdraft	331.57
	\$1,605.17

Expenditures.

Prizes	\$512.36
Office expenses	97.75
Printing and advertising	174.94
Rent	40.00
Hay	60.00
Salary	230.00
Refund fees	14.50
Sundries	16.40
Overdraft from 1906	459.22
	\$1,605.17

Audited and found correct,

(Signed) F. R. EXHAM,

Auditor.

PRIZE LIST.

CLYDESDALES.

Stallions, four years old and over.

<i>Name of Horse</i>	<i>Owner</i>	<i>Address</i>
Consul	F. Bedingfield	Pekisko.
Charming Prince	R. W. Meiklejohn	Cochrane.
Gold Medal	J. Jones	Calgary.
General Moray	G. Hoadley	Okotoks.
Favorite Blend	D. Cargill	Medicine Hat.
Dignity	J. R. Hinshaw	High River.

Three Years.

Royal King	J. A. Turner	Calgary.
Ross Romeo	J. A. Turner	Calgary.
Pioneer Prince	T. H. Andrews	Davisburg.
Alfred	F. W. Ings	Nanton.
Exalted	W. Moodie	De Winton.

Two Years.

Cherub's Pride	J. A. Turner	Calgary.
Osco Fortune	J. R. Hinshaw	High River.

Yearlings.

Sonsies Crown	W. Moodie	De Winton.
Piegan Blend	D. McKerracher	Medicine Hat.
Everard's Prince	J. A. Turner	Calgary.
McKinnon II	J. Jones	Calgary.

Mare, three years old or over.

Butterfly	J. A. Turner	Calgary.
Polly Chattan	Bryce Wright	De Winton.
Lady Rozelle	D. Thorburn	Davisburg.
Royal Belle	Bryce Wright	De Winton.

Two Year Old Filly.

Baron's Black Bess.. . . .	B. Wright	De Winton.
Lady Gartly	D. Thorburn.. . . .	Davisburg.
Wetheral Bridget.. . . .	G. Hoadley.. . . .	Okotoks.

Yearling Filly.

Bay Filly.	J. A. Turner	Calgary.
Lady Susan	D. Cargill	Medicine Hat.
Marchioness of Ailsa.. . .	Bryce Wright.. . . .	De Winton.

Special by Canadian Clydesdale Breeders' Association. —Clydesdale Stallion, any age (bred in Canada).

Charming Prince	R. W. Meiklejohn	Cochrane.
Evarard's Prince	J. A. Turner.	Calgary.
Springfield King.. . . .	H. L. Briggs	Jackville.
Exalted	W. Moodie	De Winton.

SHIRES.

Stallions, any age.

Bramhope Governor.	J. R. Hinshaw	High River.
Bramhope Abbott.	J. R. Hinshaw	High River.
Buscot Apollo	G. Hoadley	Okotoks.
Keota Stanton.	George Wills	Spring Bank.

PERCHERONS.

Stallion, any age.

Potkin	Baron Pirmez	Calgary.
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HEAVY HORSE CHAMPIONSHIPS.

Best Clydesdale Stallion, any age.

Royal King	J. A. Turner.. . . .	Calgary.
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Best Heavy Draught Stallion, any age or breed.

Consul	F. Bedingfield	Pekisko.
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Best Heavy Draught Female, any age or breed.

Baron's Lassie.	J. A. Turner.. . . .	Calgary.
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Heavy Draught Grade Team, to be shown in harness only.

Airdrie Queen.	J. Hallman & Sons.. . . .	Airdrie.
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Grade Yearlings of both sexes.

Barharrow's Gem	J. Hallman & Sons	Airdrie.
Stewart	J. Robinson.. . . .	Elbow River.

THOROUGHBREDS.

Stallions.

Indian Chief	G. Hoadley.. . . .	Okotoks.
Kamloops	P. G. Connell.	Okotoks.

Filly, yearling.

Hillside Queen	P. G. Connell.	Okotoks
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STANDARD BREDS.

Stallions, three years or over.

Amos I	P. G. Connell	Okotoks.
Coneyberry	E. W. King	Calgary.
Stanley D	E. W. King	Calgary.

Stallion, yearling.

Hillside Thorne	P. G. Connell	Okotoks.
Hillside Leader	P. G. Connell	Okotoks.

Yearling Filly.

Hillside Beauty	P. G. Connell	Okotoks.
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HACKNEYS.

Stallion, three years or over.

Agility	W. Moodie	De Winton.
Alert	P. G. Connell	Okotoks.
Glenlyon	G. Hoadley	Okotoks.

Stallion, two years or under.

Ringleader	J. Hallman & Sons	Airdrie.
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Yearling Filly.

Hilarity	W. Moodie	De Winton.
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CHAMPIONSHIPS.

Best Hackney Stallion, any age.

W. Moodie —	De Winton.
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Best Light Stallion, any age or breed.

P. G. Connell	Okotoks.
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Best Light Female, any age or breed.

W. Moodie	De Winton.
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ROADSTERS AND CARRIAGE HORSES.

Team in harness and carriage, mares or geldings, to be judged for appearance, shape and action.

Roadsters.

P. G. Connell	Okotoks.
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Carriage.

Crossley and Hunter	J. Hallman & Sons	Airdrie.
	G. E. Goddard	Cochrane.

Single Driver, mare or gelding.

Ravillus	P. G. Connell	Okotoks.
	L. A. Scott	Calgary.
Ravilli	P. G. Connell	Okotoks.

Grade Yearling of both sexes, sired by a registered light stallion.

Evergetts	P. G. Connell	Okotoks.
Granite Coach	P. G. Connell	Okotoks.

DEPARTMENT OF AGRICULTURE

Saddle Horses, over 14.2 hands, shown under saddle.

	G. E. Goddard.....	Cochrane.
Kruger.....	P. G. Connell.....	Okotoks.

Saddle Pony, 14.2 hands and under to be shown under saddle.

First Principal	A. C. Shakerley.....	Pekisko.
	G. E. Goddard.....	Cochrane.

OFFICERS FOR ENSUING YEAR.

The election of officers resulted as follows:

Hon. President	A. C. Rutherford, Premier of Alberta.
President.....	J. A. Turner, Calgary.
1st Vice-President..	D. Cargill, Seven Persons.
2nd Vice-President..	Wm. Moodie, De Winton.
Secretary and Managing Director....	E. L. Richardson.

Breed Directors.

Clydesdales ..	H. Bannister, Davisburg.
Shires.....	G. Hoadley, Okotoks.
Percherons ..	W. B. Thorne, High River.
Hackneys ..	E. C. Hallman, Airdrie.
Thoroughbreds ..	Bryce Wright, De Winton.
Coach Breeds.....	G. E. Goddard, Cochrane.
Standardbreds ..	F. W. Ings, Nanton.
Ponies.....	C. E. Brown, Calgary.
Suffolk Punch ..	Geo. Jaques, Lamerton.

General Directors.

F. Bedingfield, Pekisko.	D. Thorburn, Davisburg.
Dr. Hargrave, Medicine Hat.	Duncan Clarke, Jr., Gleichen.
	R. C. Reid, Olds.

Ex-Officio Directors.

Hon. W. T. Finlay, Minister of Agriculture, Edmonton.
 Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.

Honourary Directors.

W. F. Stevens, Alberta Live Stock Commissioner, Edmonton.	
C. W. Peterson, Calgary.	Dr. Egbert, Calgary.
I. G. Ruttle, Calgary.	E. D. Adams, Calgary.
Inspector A. E. Shaw, Calgary.	M. J. Carr, Calgary.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

I have the honour to be, Sir,

Your obedient servant,

E. L. RICHARDSON,
Secretary and Managing Director.

ALBERTA HORSE BREEDERS' ASSOCIATION.

TENTH ANNUAL REPORT.

HON. W. T. FINLAY,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the tenth annual report of the proceedings of the Alberta Horse Breeders' Association, for the year 1908.

The annual meeting was held in the City of Calgary on the 5th of April, 1909.

SECRETARY'S REPORT FOR 1908.

GENTLEMEN,—I beg to submit herewith the tenth annual report of the Alberta Horse Breeders' Association, being for the year 1908.

Spring Horse Show.

The annual horse show is becoming a more important event each year, and although the quality of the exhibits has been high during the past few years, a considerable improvement can be noticed each year, and last year was no exception to the rule. I attach hereto a copy of the list of winners at the horse show held on March 25th, 26th and 27th, 1908.

Financial Statement.

The financial statement, which I attach hereto, shows an overdraft of three hundred and forty-six dollars and ninety-one cents (\$346.91), which is fifteen dollars (\$15.00) greater than the overdraft shown at the end of 1907. A determined effort is being made to clear off some of the overdraft during 1909, and if there is a good attendance at the forthcoming horse show, it is hoped that in the next financial statement it will be at least considerably reduced.

Evening Horse Show.

During the past two or three years an effort has been made to inaugurate an evening horse show, and during the year of 1908, after due consideration, came to the conclusion that a successful evening horse show could now be held, and it was the intention to utilize the sale pavilion at Victoria Park for the purpose of holding an Evening Horse Show every night, and to have a parade of prize winners in addition to a few harness and saddle classes judged during that performance. Sherman's auditorium was the only other place that was available, and as this rink had a hard wood floor which was used for roller skating, it was thought out of the question to meet the necessary expense of preparing the building in order to make it suitable for an evening horse show. The undersigned interviewed a number of the business men of the city to find out if they would contribute towards an evening horse show if we would hold it in Sherman's auditorium, and on receiving their most hearty support, arrangements were made to inaugurate a horse show in Sherman's auditorium for the evenings of the 6th, 7th and 8th, and the afternoon of the 8th.

The horse ring, which is 180 feet long by 80 feet wide, will have to be floored with plank and covered with rubber strips to keep the horses from slipping, and afterwards covered with sawdust; and the necessary boxes and provision for reserved seats will have to be built. Altogether the fitting up and renting of the rink will cost not less than fifteen hundred dollars. The merchants of Calgary, and three or four of our members have subscribed the sum of eleven hundred dollars towards the undertaking; the Alberta Provincial Government have increased their annual grant from four to eight hundred dollars, and the City of Calgary appropriated five hundred dollars. The Dominion Government are also making a grant of two hundred and sixteen dollars, being one-third of the amount set aside for the work of the various live stock associations in Alberta.

Arrangements were made for twenty boxes, seating from four to six people, and these were all taken in three or four days at from twenty-five to thirty-five dollars each, according to the seating capacity. The reserved seats are rapidly being booked, and everything points to the next horse show being very successful indeed.

As Alberta is so admirably adapted to the production of horses, it should be our aim to make Alberta famous as the home of the best annual provincial horse show in Canada, and I am confident that in a very few years we can accomplish this. It will be necessary, before the best results can be obtained in this regard, to have a suitable building erected at the exhibition grounds for the holding of the horse show. I have no doubt but that the citizens will provide the necessary funds when we demonstrate beyond doubt the success that can be made of a horse show in Alberta.

E. L. RICHARDSON,
Secretary and Managing Director.

DEPARTMENT OF AGRICULTURE

FINANCIAL STATEMENT 1909.

Receipts.

Membership fees	\$54 00
Donations.	130.00
Entry fees	176.00
Alberta Government grant.	400 00
Dominion Government grant	325.00
Overdraft	346 91
	\$1,431.91

Disbursements.

Overdraft from 1907	\$331 57
Prizes.	441.57
Postage, stationery, office and ground expenses.	158 80
Printing and advertising.	261 27
Straw and sawdust	25.00
Salaries.	200 00
Sundries.	10 70
	\$1,431 91

Audited and found correct.

(Sgd.) F. R. EXHAM,
Auditor.

PRIZE WINNERS.—HORSE SHOW, 1908.

CLYDESDALES.

Stallions, four years and over.

<i>Name of Horse</i>	<i>Owner</i>	<i>Address</i>
Medallion	John A. Turner	Calgary
Sonsie's Best	Wm. Moodie	De Winton.
Mount Clifton	Jas. Clark.	Crowfoot.
Braw Lad	John A. Turner	Calgary.
Master McQueen	Jas. Clark..	Crowfoot.

Three Years.

Prospero.	Robt. McPherson..	Calgary.
Joycelyn.	D. Thorburn	Davisburg.
Cyneus	Thos. Laycock	Calgary.
Kilmalecolm.	Wm. Dawson	Calgary.

Two Years.

The Leader.	Jno. A. Turner	Calgary.
Diplomat	Wm. Moodie	De Winton.
Sonsie's Prince	Wm. Moodie	De Winton.
Sonsie's Duplicate.	Wm. Moodie	De Winton.

Yearlings.

Vice Consul.	Jno. A. Turner	Calgary.
Sonsie's Heir.	Harold Baunister	Davisburg.

Any Age.

Charming Prince.	Jno. A. Turner	Calgary.
Sonsie's Best.	Wm. Moodie.	De Winton.
Master McQueen	Jas. Clark.	Crowfoot.
Gold Medal.	Jas. Jones.	Calgary.

Mare, three years or over.

Walnut	Jno. A. Turner.	Calgary.
Black Diamond	Jno. A. Turner.	Calgary.

Two Year Old Filly.

Sweet Barlae	Bryce Wright.	De Winton.
Wetherall Queen	Geo. Hoadley	Okotoks.
Sonsie's Kate	Harold Bannister	Davisburg.

Yearling Filly.

Sonsie Belle	Harold Bannister	Davisburg.
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SHIRES.

Stallions, Three Years and Over.

Gillibrand Flag	C. F. A. Leeds	Clareholm.
Buscot Apollo	Geo. Hoadley	Okotoks.

SUFFOLK PUNCH.

Stallions, Three Years and Over.

Sproughton Baron	Geo. Jaques	Lamerton.
Nelson	J. A. W. Fraser	Jumping Pond.
Harvester	Geo. Jaques.	Lamerton.

Filly Colts of 1907.

Venus	Geo. Jaques	Lamerton.
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Heavy Draught Grade Team, in harness only.

T. McMillan	Lineham.
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Heavy Draught Grade Gelding or Mare.

(Mare)	R. McPherson	Calgary.
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Heavy Draught Stallion and Three of His Progeny.

Sonsie's Best	Wm. Moodie.	De Winton.
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Grade Yearlings of both sexes.

Colt by Gen. Moray.	W. S. Herron	Okotoks.
Black Bess	Geo. Jaques.	Lamerton.

THOROUGHBREDS.

Stallion, Three Years Old and Over.

Gayboy	David A. Campbell.	Calgary.
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STANDARD BREDS.

Stallion, Three Years Old and Over.

Ping Pong	Geo. T. Haag	Calgary.
Moniemusk	J. F. Moodie.	Calgary.
Klein Ream.	Geo. T. Haag	Calgary.

DEPARTMENT OF AGRICULTURE

HACKNEYS.

Stallions, Three Years and Over.

Agility	Wm. Moodie	De Winton.
Jester	Wm. Moodie	De Winton.
Hirschon Concord	E. R. Lewis	Dog Pound.

Two Years Old.

Alacrity	Wm. Moodie	De Winton.
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CARRIAGE HORSES.

Team in Harness and Carriage, Mares or Geldings, to be judged for Appearance, Shape and Action.

G. E. Goddard	Cochrane.
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Single Driver, Mare or Gelding, to be judged for Appearance, Shape and Action.

Rock	R. Riddell	Calgary.
Emblem	Bryce Wright	De Winton.

SADDLE HORSES.

Saddle Horses and Ponies, to be shown under saddle.

Queenie	C. Nibbs	Calgary.
Miser	M. J. Carr	Calgary.
Punch	O. E. Brown	Calgary.

CHAMPIONSHIPS.

Clydesdales.—Section I.

Charming Prince	Jno. A. Turner	Calgary.
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Section II.

Sweet Barlae	B. Wright	De Winton.
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Special Hackney.

Agility	Wm. Moodie	De Winton.
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Special Light.

Ping Pong	G. T. Haag	Calgary.
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Special Hackney Female.

Rosamond.	Jno. A. Turner	Calgary.
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Special Light Female.

B. Wright	De Winton.
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LIST OF MEMBERS UP TO APRIL 1ST, 1909.

Abell, E. Howard, Cochrane.	Baird, Sam, Calgary.
Aird, James, Millarville.	Bailey Bros., Box 536, Calgary.
Alberta Steam Laundry Co., Calgary.	Baptiste, J., Didsbury.
Atkinson, Mrs. J. E., 504 12th Ave., W., Calgary.	Bruce, George B., Box 1208, Calgary.
Anderson, W., Okotoks.	Bulyea, Hon. G. H. V., Edmonton.
Auld, Edwin, Box 1615, Edmonton.	Bunny, Bruce H., Gleichen.
Baker, C. W., Olds.	Bennett, R. K., Midnapore.
	Calgary Brewing and Malting Co.

- Cargill, David, Seven Persons.
 Carr, Maurice J., 827 14th Ave., W., Calgary.
 Campbell, David A., Box 501, Calgary.
 Clarke, Duncan, Crowfoot.
 Clarke, James, Crowfoot, Alta.
 Clarke, John, Box 127, Gleichen.
 Clemens, E., Calgary.
 Clerisse, P., Rural Route No. 1, Millarville.
 Cochrane, W. H., Millarville.
 Cook, W., Cochrane.
 Cronie, Thos., De Winton.
 DeMay, Mrs. Chas., 112 14th Ave., E., Calgary.
 Dubern, H. R., Rural Route No. 1, Priddis.
 Durand, L., Millarville.
 Farr, J. G., 1115 8th Ave., W., Calgary.
 Fisher, A. O., Box 1834, Calgary.
 Fisher, Jos., R.R. No. 1, Millarville.
 Fraser, Montie L., Millarville.
 Gardner, Clem, Springbank.
 Geater, Thos. N., Box 242, Calgary.
 Goddard, G. E., Cochrane.
 Gray, Douglas W., M.D., Bowden.
 Greig, D. H., Cockshutt Plow Co., Calgary.
 Griffiths, C. H., Box 248, Calgary.
 Gunn, J. Nisbet, M.D., Room 36, McDougall Block, Calgary.
 Hooley, W. G., Millarville.
 Haag, George T., Calgary.
 Hallman, J., & Sons, Airdrie.
 Hardie & Young, Grand Union Stables, Calgary.
 Harvey & Officer, Palace Livery, Calgary.
 Hartell, F. J., Cheadle.
 Hennerley, L. H., Glenbow.
 Henry, Chas., Calgary.
 Hinshaw, J. R., High River.
 Hodgson, Gilbert, Calgary.
 Hone, Addison, Midnapore.
 Hudson Bay Co., Calgary.
 Hansen, W. G., Pekisko.
 Ingpen, Wm. F., Box 362, Calgary.
 Ings, F. W., Nanton.
 Jaques, Archie, Lamerton.
 Jaques, Norman, Ingleton.
 Jaques Bros., Ingleton.
 Jephson, J. M., Calgary.
 Johnston Cartage Co., Calgary.
 Jones, Jas., Big Springs Ranch, Calgary.
 Kittson, A. G. D., Pacific Grain Co., Calgary.
 Landale, A. Condie, Millarville.
 Landels, A., Nanton.
 Larose, J., Edmonton.
 Laycock, Jos., Calgary.
 Laycock, Thos., Calgary.
 Laycock, W. W., Calgary.
 Lee, John, High River.
 LeSeur, E. Payne, Glenbow.
 Lowes, F. C., Calgary.
 Lindsay, Dr. N. J., Calgary.
 Lane, Geo., Pekisko.
 Marsh, A. S., Calgary.
 Melladew, E., Millarville.
 Mewburn, H. L., Calgary.
 Mewburn, T. L., Calgary.
 Mewburn, L. T., & Co., Calgary.
 Millar, Malcome T., Millarville.
 Mitchell, B. S., Box 358, Calgary.
 Moodie, Wm., DeWinton.
 MacBride, E. Lecoq, Millarville.
 McCutcheon, D. J., Calgary.
 McDonald, D. P., Cochrane.
 McDonald, Neil, Calgary.
 Macdonald, J. T., Calgary.
 McKillop, A., Calgary.
 McKay, A. M., V.S., 527 4th Ave., W., Calgary.
 McKay, A. R., Cochrane.
 McMillan, Thos., Okotoks.
 McPherson Bros., Calgary.
 McRae, J. C., 304 14th Ave., E., Calgary.
 McPherson, A., Cochrane.
 Niblock, D. B., Calgary.
 Nottet, H., Cochrane.
 Nibbs, Cecil, Calgary.
 Ontario Laundry, Calgary.
 Page, J., Calgary.
 Parslow, Wm., Calgary.
 Pirmez, R., Calgary.
 Rainey, Edwin, Calgary.
 Riddell, R., V.S., Calgary.
 Roaldes, G. de, R.R. No. 1, Priddis.
 Robert, C. J., Edmonton.
 Robertson, Peter, High River.
 Rochon, F., Calgary.
 Ruttle & Co., I. G., Calgary.
 Roberts, W. W., Calgary.
 Saunders, R. R. H., Box 362, Calgary.
 Scott, R. J., Lacombe.
 Shantz, D. S., Didsbury.
 Shattuck, Chas., Davisburgh.
 Shaw, A. E., Inspector R.N.W.M.P., Calgary.
 Slingsby, W., Calgary.
 Stahle, F. X., 614 13th Ave., E., Calgary.
 Stewart, Irvine, Calgary.
 Snowden, K. J., Pekisko.
 Thomas, E., The Wigwam, Calgary.
 Thorne, W. B., High River.
 Tucker, Mrs. P. B., 1217 17th Ave., Calgary.
 Tull, Geo. F., 1712 7th St. W., Calgary.
 Twohey, Jas., Calgary.
 Tillotson, C. E., Claresholm.
 Turner, J. A., Calgary.
 Van Wart, I. S. G., Calgary.
 Vergne, C. R. de la, Glenbow.
 Von Stralendorff, R. G., Okotoks.
 Von Stralendorff, U. F. A., Millarville.
 Watson, D. J., The Herald, Calgary.
 Webber, I. C., Nanton.
 Weir, John, Carbon.
 West, H. R. A., Gleichen.
 Wetmore, J. H., Calgary.
 Wigle, E. J., 342 18th Ave., Calgary.
 Wood, Jas., High River.
 Wright, Bryce, DeWinton.

DEPARTMENT OF AGRICULTURE

OFFICERS FOR ENSUING YEAR.

The election of officers resulted as follows:

President	Geo. Hoadley.
1st Vice-President	Mr. Thorburn.
2nd Vice-President	Wm. Moodie.
Secretary and Managing Director	E. L. Richardson.

Breed Directors.

Clydesdale	J. A. Turner, Calgary.
Shires	J. R. Hendshaw, High River.
Percheron	W. B. Thorn, High River.
Hackneys	R. C. Reid, Olds.
Thoroughbreds	E. Rainey, Calgary.
Coach Horses	G. E. Goddard, Cochrane.
Standardbred	W. M. Parslow, Calgary.
Suffolk Punch	Geo. Jaques, Lamerton.
Belgians	C. de Roaldes, Priddis.
Draft Grades	E. C. Hallman, Airdrie.
Roadsters	I. G. Ruttle, Calgary.
Carriage Horses	Chas. Riddick, Calgary.
Agricultural horses	Jas. Twohey, Calgary.
Cartage horses	E. D. Adams, Calgary.
Delivery horses	F. Johnston, Calgary.
Saddle horses	J. M. Carr, Calgary.

General Directors.

F. W. Beddingfield, High River
D. Clark, Jr., Gleichen.
W. Ings, Nanton.
Dr. Hargraves, Medicine Hat.
Thos. Millan, Okotoks.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

I have the honour to be, Sir,
Your obedient servant,
E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX B.

ALBERTA CATTLE BREEDERS' ASSOCIATION.

NINTH ANNUAL REPORT.

HON. W. T. FINLAY,
Minister of Agriculture.

SIR.—I have the honour to submit herewith the ninth annual report of the proceedings of the Alberta Cattle Breeders' Association, for the year 1908.

OFFICERS FOR 1908.

Honourary President	J. A. Turner, Calgary.
President	Jas. Walters, Tees.
First Vice-President	Wm. Sharpe, Lacombe.
Second Vice-President	Jno. Ramsay, Priddis.

Breed Directors.

Shorthorns	.....	Bryce Wright, De Winton.
Herefords	.....	J. T. Parker, Lacombe.
Aberdeen Angus	.....	L. Hutchinson, Duhamel.
Galloways	.....	E. D. Adams, Millarville.
Dairy Breeds	.....	W. J. Tregillus, Calgary.

General Directors.

S. M. Mace, Pekisko.	R. K. Bennett, Midnapore.
W. P. Williams, Fort Saskatchewan.	Hy. Talbot, Lacombe.
O. Palmer, Lacombe.	

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
 Hon. W. T. Finlay, Minister of Agriculture, Edmonton.

Honourary Directors.

W. F. Stevens, Live Stock Commissioner for Alberta.
 C. W. Peterson, Calgary.

Secretary and Managing Director.

E. L. Richardson, Alexander Corner, Calgary, Alta.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

The annual meeting of the association was held in the City of Calgary on the 8th of April, 1909.

REPORT OF THE SECRETARY FOR 1908.

GENTLEMEN,—I herewith present the ninth annual report of the Alberta Cattle Breeders' Association, being for the year 1908.

Eighth Annual Auction Sale of Cattle.

The eighth annual auction sale of bulls was held in Victoria Park, Calgary, on the 19th to 22nd of May, 1908. Before the sale there seemed to be a general impression abroad among the members of the association that this sale would not be a very great success, and while there was no doubt good cause for the impression, I believe I am safe in saying that such an opinion freely expressed, has in itself a considerable bearing on the success of the sale. It is bad business to give expression to such a feeling and at no time is it capable of producing worse results than when one is endeavouring to sell.

The result of the last sale was in a measure the natural outcome of the general conditions prevailing at the time. The hard winter of 1907, and the severe losses which in some cases were sustained largely as a result of the system of ranching carried on in Alberta, resulted in a number of cattle raisers deciding to go out of business as soon as they could dispose of their stock without too great loss. On the face of this came the financial stringency in the fall of 1907 and the spring of 1908. While Alberta did not feel the financial difficulties any more, if as much as other provinces of the Dominion, or as was felt throughout the United States, money was undoubtedly very scarce, and prices at the sale were consequently very low, and in some cases animals which at other sales held by the association would have been quickly picked up were not sold.

At the 1908 sale 111 animals were sold for \$7,095, or an average of \$63.91 each. The number of each breed sold was as follows:

67 Shorthorns, average price..	\$64.28
37 Herefords, average price...	64.80
6 Aberdeen Angus, average price.	56.66
1 Galloway sold for.	50.00

The highest priced animal was sold by Mr. John A. Turner for \$400.00. This was a Shorthorn, and was the highest price ever obtained at any of the association sales, and should give breeders confidence when entering bulls of very good quality.

Attached is a statement showing the number of animals sold, and prices realized at all the sales held by the association, from which will be seen that the sale of 1908 was the smallest since the first sale which was held in 1901, and the average price obtained was \$5.37 smaller than the average at previous sales.

STATEMENT SHOWING SUMMARY OF ANIMALS SOLD AT THE ANNUAL BULL SALES.

Year	Total No.	Average price	Total receipts	SHORTHORNS				HEREFORDS				GALLOWAYS				ABERDEEN ANGUS				AYRSHIRES			
				Bulls		Cows		Bulls		Cows		Bulls		Cows		Bulls		Cows		Bulls		Bulls	
				No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.	No	Ave.
1901	64	\$85 17	\$5,451 00	44	\$90.57	19	\$73 73									1	\$45 00						
1902	220	95 80	21,077 00	183	99.91	8	76 25	14	\$91.42							2	72 50	10	\$68.50	3	\$51.30		
1903	268	96 60	25,890 00	173	93 65	65	96 63	19	135 00							9	83 33			1	15.00		
1904	293	99.79	29,245 00	131	104 23	49	65 22	76	127 17	14	\$91 42	1	\$75 00			5	107 00	1	60 00				
1905	340	69 28	23,557 00	173	67.84	55	63 45	93	76 21	8	65 00	5	64 00			4	62.50						
1906	170	108 37	18,426 50	95	106 12	23	72 17	37	138 91	7	78 57	2	165 00			6	139.16						
1907	192	75 72	14,538.50	132	74 64	..	.....	50	79 54							9	72 67						
1908	111	63.91	7,095 00	67	64.28		.....	37	64 80							1	50 00						

HIGHEST PRICES REALIZED.

- 1901.—\$250.
1902.—\$290.
1903.—\$255.
1904.—\$285.
1905.—\$225.
1906.—\$365.
1907.—\$170.
1908.—\$400.
- Shorthorn Bull, sold by P. Talbot & Sons, Lacombe.
Shorthorn Bull, sold by Jno. Ramsay, Priddis.
Hereford Bull, sold by O. Palmer, Lacombe.
Shorthorn Bull, sold by Hon. W. Beresford, Calgary.
Shorthorn Bull, sold by D. Sinclair, Innisfail.
Shorthorn Bull, sold by A. F. McGill, Lacombe.
Shorthorn Bull, sold by James Sharp, Lacombe.
Shorthorn Bull, sold by John A. Turner, Calgary.

Prospects for Future Sales.

Judging from general indications at the time of writing, namely, the end of December, prospects for a successful sale in 1909 appear to be bright. The financial trouble has practically disappeared, and the general outlook for business in all lines is bright. Generally speaking, the crops of 1908 were particularly good in the Province of Alberta, and the splendid fall weather has made it possible for a very large proportion of the crop to be shipped out and realized on. The settlement of the country will no doubt continue fully as rapidly as during the past few years, and we can easily look forward to a large increase in the number of herds kept on farms. It is difficult to foresee what will be the ultimate effect upon our annual sales of the change which is rapidly taking place from the raising of cattle under ranching conditions to farm conditions. One regrettable feature in connection with the cattle business, however, and one which has been particularly noticeable during this fall, is the extensive shipment of heifers and breeding stock from the ranches. This depletion of the ranches is bound to have a detrimental effect upon our sales, but will likely exert a beneficial influence by increasing the price of cattle and making the business all the more profitable for those who stay in it. The phrase "stay with the cattle" used by Mr. Duncan Anderson in his address to this Association last May, is even more applicable now than it was then.

Following is a list of prize winners at the purebred cattle show held in conjunction with the auction sale.

CLASS I.—SHORTHORN BULLS.

Three years and over.

1st	Model Duke, 57358	R. K. Bennett, Midnapore.
2nd	.....	H. Talbot, Lacombe.
3rd	Prairie King, 857175	T. Talbot, Lacombe.
4th	Robin Adair, 56306	J. Scarlett, Innisfail.
5th	Wood, 52282	O. Sigurdson, Solheima.

Under three years and over thirty months.

1st	Baron Robson, 63484	John A. Turner, Calgary.
2nd	Mabon, 68878	W. P. Williams, Ft. Saskatchewan.
3rd	Sunnyside Chief, 63593	Mrs. C. McIntosh, Lacombe.
4th	Prince Rupert, 67810	H. Talbot, Lacombe.

Two years and under three.

1st	Diamond's Hero, 70651	H. Talbot, Lacombe.
2nd	Guinea Stamp, 70855	James Sharpe, Lacombe.
3rd	Earl of Athol, 70985	J. L. Watkins, Olds.
4th	Sir Walter, 70994	J. L. Watkins, Olds.
5th	Rosario, 66379	R. K. Bennet, Midnapore.

Under two years.

1st	Grazier, 70852	W. Sharpe, Lacombe.
2nd	Goldbeater, 70861	James Sharpe, Lacombe.
3rd	Guarantor, 70853	W. Sharpe, Lacombe.
4th	Roxie King, 65888	S. R. English, Lanuke.
5th	Baron Ury, 68620	Bryce Wright, De Winton.

Yearlings and under eighteen months.

1st	Lord Robert, 71193	Wm. Thirsk, Wetaskiwin.
2nd	Lord Ailsa	Bryce Wright, De Winton.
3rd	Standard Bearer	Bryce Wright, De Winton.
4th	Lanuke Duke, 70753	S. R. English, Lanuke.
5th	Red Sailor, 29808	S. R. English, Lanuke.

CLASS II.—CHAMPIONSHIPS.

Best Shorthorn Bull, bred in Alberta.

Diamond's Hero, 70651	Hy. Talbot, Lacombe.
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Best Shorthorn Bull, any age.

Baron Robson, 63484 John A. Turner, Calgary.

CLASS III.—HEREFORD BULLS.

Three years and over.

1st	Togo, 3429	Oswald Palmer, Lacombe.
2nd	Warsaw, 217455	P. F. Huntley, Lacombe.
3rd	Lofly, 223722	P. F. Huntley, Lacombe.
4th	Inman, 217444	P. F. Huntley, Lacombe.
5th	Red Cloud, 217453	P. F. Huntley, Lacombe.

Under three years and over thirty months.

1st	Beiry, 3687	James Tough, Edmonton.
2nd	Longfellow, 212196	P. F. Huntley, Lacombe.

Two years and under thirty months.

1st	Lamerton Luck, 5685	F. J. Taylor, Lamerton.
2nd	Hamilton Jr., 6411	S. M. Mace, Pekisko.
3rd	Sir Bredwell 14th	Jesse Fraser, Lacombe.
4th	Sir Bredwell 13th	John T. Parker, Lacombe.
5th	Dewey, 250202	P. F. Huntley, Lacombe.

Eighteen months and under two years.

1st	Darwin, 250201	P. F. Huntley, Lacombe.
2nd	Gallant Hei-od 12th, 7121	Oswald Palmer, Lacombe.
3rd	Lamerton Ladas, 6888	Frank J. Taylor, Lamerton.
4th	Togo Tom, 7128	Oswald Palmer, Lacombe.
5th	Hawthorne, 6407	S. M. Mace, Pekisko.

CHAMPIONSHIPS.

Best Hereford bred in Alberta.

Lamerton Luck, 5685 Frank J. Taylor, Lamerton.

Best Hereford, any age.

Lamerton Luck, 5685 Frank J. Taylor, Lamerton.

Yearlings and under eighteen months.

1st	Lamerton King, 6885	Frank J. Taylor, Lamerton.
2nd	Sir Bredwell 26th	Jesse Fraser, Lacombe.
3rd	Sir Bredwell 25th	John T. Parker, Lacombe.
4th	Sir Bredwell 24th	Jesse Fraser, Lacombe.
5th	Blagg, 264901	P. F. Huntley, Lacombe.

CLASS IV.—ABERDEEN ANGUS

Three years and over.

1st	Canton June Blossom 2nd, 57846	G. G. Melson, Olds.
2nd	Zilpha's Leader 2nd, 76314	Lew Hutchinson, Duhamel.
3rd	Canton James D, 76306	Frank Jones.

Two years and under.

1st	Chief of Clovernook	W. J. McClure, Innisfail.
2nd	North View Nic., 90707	G. G. Melson, Olds.
3rd	Alberta Black Prince, 98262	W. J. McClure, Innisfail.
4th	Alberta Blossom, 1234	J. H. Fay, Blackfalds.

CHAMPIONSHIPS.

Best Aberdeen Angus, bred in Alberta.

Chief of Clovernook W. J. McClure, Innisfail.

Best Aberdeen Angus, any age.

Canton June Blossom 2nd, 57846 . . . G. G. Melson, Okls.

CLASS V.—GALLOWAY BULLS.

Any age.

1st	King of Tees, 1682	W. E. Tees, Tees.
2nd	Count Von Geyerstein, 29859	E. D. Adams, Calgary.

Financial Statement.

The financial statement presented herewith shows a deficit of \$142.61 which deficit is less, by \$52.00, than the amount in the 1907 statement. It has been impracticable to reduce the expenditure in keeping with the smaller revenue secured from the last two sales, and as a consequence, the association is not in as good financial condition as it was three or four years ago, when a large number of sales were being made, and the revenue considerably greater. An additional dollar entry fee has been added to the charges in order that it may be possible to clear off the deficit. The association has been notified by the Dominion live stock commissioners' branch, that unless the sale is thrown open to breeders in Canada on the same basis as to Alberta breeders, the usual Dominion Government grant will not be continued. This grant amounted to \$650, and was equally divided between the cattle and horse breeders' associations. At the last annual meeting it was suggested that the following rule be incorporated in connection with this matter: "That in the event of the number of animals entered by residents of Alberta not reaching the limit allowed, residents of other parts of the Dominion of Canada be permitted to enter animals in the order applications are received after the date for the receiving of entries, until the limit of entries has been reached, said animals to be subject to inspection by the executive committee before being sold." The association was informed by the live stock commissioner that this rule would not make the association eligible to participate in the grant.

At a meeting of the directors held in October, it was decided after considerable discussion to incorporate the following rule to meet the demands of the case: "Provided that breeders residing in Canada outside of Alberta, may enter animals if otherwise eligible, all such animals to be subject to inspection by an official appointed by the executive committee, prior to shipment to Alberta, the expense of inspection to be defrayed *pro rata* by the persons applying from each province according to the number of applications sent in. An inspection fee of \$5 per head must accompany each application for entry, which will be applied against the cost of inspection." The association has since been notified that this rule is also unsatisfactory, as it does not place outside breeders on exactly the same basis as members of the association in Alberta. It was felt by the directors that it would be to the detriment of the Alberta purebred live stock interests, if stock from the east were allowed to be sent to the sale without first being inspected, and the rules of sale re entry of stock have therefore been left as they were last year. As you are aware a number of our breeders are annually going to eastern Canada to purchase purebred sires of high quality, and it is the general opinion that this is the only way the best bulls from the east can be secured. It is believed that the eastern breeders would not be inclined to risk their best bulls at a sale a very considerable distance from their home, and would be more inclined to send animals here which they could not readily dispose of at home. Should these bulls not be sold at our sale, the expense of bringing them here, and the additional expense necessary to have them returned, would be so great that they would sacrifice them rather than ship them home. These animals would naturally take the place of animals offered by Alberta breeders, as in the event of the latter not being able to dispose of his stock, he could have them returned home at a very small expense. If the eastern animals were of inferior quality, it would not be a benefit to the cattle interests or even to the buyer, that such animals should be sold. The matter of the discontinuance of the Dominion grant was taken up with the provincial Government, and the Hon. W. T. Finlay, Minister of Agriculture, advised the association that the Government would make up the difference, although this arrangement was not an annual one, applying only to the year 1909.

STAY WITH THE CATTLE.

By Mr. Duncan Anderson, Special Representative of the Live Stock Branch of the Dominion Department of Agriculture.

"I am going to take for my text to-night the words used by your honourary president, Mr. John A. Turner, last evening in speaking to 'Stay with the cattle.' At the present time over Canada live stock, beef cattle are the surest money making agricultural proposition that I know of. In this province, despite the difficulties under which you labour in respect to marketing, conditions are the same as in other parts of the Dominion. Livestock is the source of a very great portion of your wealth.

"Alberta, as I see it, is an inland province. You are two thousand three hundred miles from tide-water at Montreal. You are six hundred and seventy miles from the Pacific ocean, and thirteen hundred miles from the head of inland navigation at Fort William. Everything you produce must be hauled over a long route before it reaches its ultimate market, and the question is: Can you produce coarse grain in this country and sell it at a profit? I know, and those of you who have tried it know that it cannot be done. That grain must be wrapped up inside the hide of a steer, a hog or a horse. You are admirably situated for producing all three. Alberta is more diversified in condition than any other province of the Dominion.

"Last winter at Ottawa, I addressed the National Stock Growers' Association on the condition of the livestock industry as I saw it in the various provinces, and I said then that Alberta was better adapted for producing horses, cattle, sheep and hogs, than any other part from Prince Edward Island to British Columbia. Conditions here are the best in the Dominion. I have not changed my mind since.

"I told them there that if a line were drawn from Saskatoon to Didsbury, all the country north of it, generally speaking, would be found suited to dairying, hog raising and beef cattle. Water is abundant, rains copious, the grass luxuriant and long. South of that line your province is best adapted for beef cattle and horses. Water is less plentiful; dairying and hog raising could not be generally followed, but beef cattle and horses could be grown the equal of any on the continent. All this you know. But what about the marketing of this stock after it is produced?

The Great Maw.

"At present Great Britain is the market centre of the world. The time may come when the ranchers and farmers of Alberta will be swapping beef, butter and cheese for California oranges, or sending it over to Asia in exchange for silk, but for the present London is your meat market. The meat must go where the money is, and London for the past century or two, has had a mortgage on this planet, and has the interest on her investment to spend. Last fall when the banks and financial institutions of the United States were tottering to their ruin, it was the old lady of Threadneedle Street who went down into her cellars and shipped across the Atlantic the gold that allayed the panic and renewed the public confidence. Great Britain is your market, and you require to get your meat or livestock into that market in the best condition and at the best time of the year.

"Until very recently all the cattle shipped out of Western Canada were grass finished, sold in August or September and dumped onto the English market in the fall when beef was plentiful, and the market in addition glutted with poultry. Until about four years ago cattle for export were grown almost entirely on the ranches, and were not even hay fed in the winter. Conditions nowadays are changed. The days of the old-time rancher with his thousands of acres of leased grazing lands, are going, never, never to return. They were the most hospitable class of men on the face of the earth. It was always a pleasure to visit them, but for all, their day is gone; new conditions must be faced. The grazing lands are being cut up and the rancher must now have a home ranch, provide feed for winter and some manner of shelter for his stock. The cattle business is passing from the rancher to the farmer and feeder. Can they finish steers on the coarse grains available, on straw, hay and chaff, and make it pay? Does it pay to feed oats at 22 cents per bushel to beef cattle?

Facts Demonstrated.

"In answer to this question we have the results of some experimental work done at the Brandon farm last winter in which a bunch of steers were fed out of doors on hay, straw, sheaf oats and ground grain, and after paying for all the feed consumed, and for the labour required in handling the cattle, a profit of something over seven dollars per head was realized from the animals. And these steers sold for four and a quarter cents per pound. But you who have been accustomed to

making profits from real estate where several thousand dollars might be made in a day or two, or a year, may look askance at a paltry profit of seven dollars from feeding a steer for five or six months. Let me tell you this, you cannot continue always to make money in buying and selling land. It will reach its ultimate value finally, but the profit from steer feeding will go on forever.

"But let us come nearer home. I was out to High River a month ago, and found there some bunches of winter fed steers that returned to their owners better profit even than this for the feeding. Out there I found a couple of feeders, Messrs. Lawrence and Westholm, who were winter feeding and making money at it. Mr. Lawrence fed last winter something like twenty head and Mr. Westholm thirty-six. These steers were not tied up in a stable and hand fed, but run out in a corral all winter with no protection but a hay rack on the west side of the fence. They were fed on hay, straw, sheaf oats and crushed grain, and were marketed at four and one-half cents per pound bringing in about \$60.00 a piece after being fed five months. Did that pay? Did it pay Mr. Westholm to drive those cattle to High River one day this spring, and bring home something like twenty-two hundred dollars? If I know anything about farming, I believe it did.

Question.—"Where did they get their cattle?"

Answer.—"They bought some of them and raised the rest. Each of these men are farming about three quarters of a section and have grazing land in addition.

Complimentary Factors.

"There are two letters in the alphabet that are rarely found apart, q and u. There are two factors in live stock growing that must always go together, breed and feed. The necessity of breed need not be touched upon, it is of feeding and the different systems of feeding that I want to speak. They are these: The first one is that in which the cattle are carried through the winter on oat sheaves, coarse grain, and hay, without shelter. A bullock fed in this way can be finished for the market for fourteen dollars. Sheaf oats are an excellent winter feed. An acre of oats will produce about 500 sheaves. If the crop would run 60 bushels per acre, each sheaf will contain about 1½ pounds of grain, and cattle fed on them for the last three months of the feeding period, receiving in addition, ground grain and hay, will fatten rapidly, and return a profit to the men who feed them.

"The second system of feeding is to run the cattle through winter in fairly good condition, on straw and a little hay, but without oat sheaves or grain, turn them to grass in the spring, and have them ready for market in July. The third system is to put up no winter feed at all, let the cattle rustle all the year round and market them in August or September.

"Of the three the first is to be preferred. One thing is definitely certain, we have got to market our cattle at a rather earlier age than some of us have been accustomed to do it. We have got to keep them growing at the age when they are best able to make the most of their food. It was all right in the old days when grazing land was cheap, to keep steers about until they were four or five or six years old, but under present conditions we have got to sell at about three years or under. The nimble sixpence is worth the slow shilling every time. We cannot afford to wait so long as we used to, to change our money round."

At the conclusion of Mr. Anderson's address, there was a general discussion on the points raised. There was a strong feeling evident in favour of the Government taking some action to stimulate the establishment of chilling plants where steers too light to be shipped profitably alive, could be slaughtered and sent forward in the carcass. There seemed to be a strong sentiment in favour of the Government going into the meat business.

MEMBERS OF THE ALBERTA CATTLE BREEDERS' ASSOCIATION FOR THE YEAR 1908.

E. D. Adams, Calgary.	Lew Hutchinson, Duhamel.
J. McK. Andrews, Davisburg.	Thos. Laycock, Calgary.
Wm. Anderson, DeWinton.	A. Lucas, Clyde.
H. Bannister, Davisburg.	C. E. Byron, Jumping Pond.
A. H. Bolton, Gladys.	F. R. Cathro, Calgary.
R. K. Bennet, Midnapore.	S. R. English, Warwick.
A. S. Blackwood, DeWinton.	A. S. Fowler, High River.
J. D. Chamber, Crossfield.	P. F. Huntley, Lacombe.
F. A. Cull, Canyon.	Frank Jones, Canyon.
Chester Doupe, Wetaskiwin.	A. W. Latimer, Bowden.
F. H. Fay, Blackfalds.	W. H. Maude, Lacombe.
J. Fraser, Lacombe.	Chas. Moore, Bowden.
Thos. Fletcher, Calgary.	J. D. Murdoch, Lamerton.
H. C. Graham, Kitscoty.	Noble Morrison, Wetaskiwin.
J. H. Grose, Valley City.	Geo. G. Melson, Olds.

W. E. Moran, Innisfail.	C. A. J. Sharman, Red Deer.
Hugh MacPherson, Calgary.	O. Sigurdson, Solheima.
W. J. McClure, Innisfail.	Wm. Sharp, Lacombe.
Mrs. C. W. McIntosh, Lacombe.	John A. Turner, Calgary.
Robert MacPherson, Calgary.	W. J. Tregillus, Calgary.
A. P. Olsen, Red Deer.	P. Talbot & Son, Lacombe.
S. W. Paisley, Lacombe.	H. Talbot, Lacombe.
Robert Pratt, De Winton.	James Tough, Edmonton.
Oswald Palmer, Lacombe.	Wm. Thirsk, Wetaskiwin.
J. T. Parker, Lacombe.	J. F. Taylor, Lamerton.
John Ramsay, Priddis.	W. E. Tees, Tees.
Jno. Robinson, Innisfail.	Bryce Wright, De Winton.
J. Rion, Davisburg.	J. L. Walters, Tees.
J. and E. Sharp, Lacombe.	Jas. Wilson, Innisfail.
Jas. Shouldice, Calgary.	H. W. Watkins, Olds.
David Sinclair, Innisfail.	Ed. Waines, Springbank.
James Scarlett, Innisfail.	Theo. Wagner, Erskine.
P. A. Switzer, Lacombe.	

FINANCIAL STATEMENT, 1908.

Receipts.

Membership fees	\$69 00
Donations	85 00
Entry fees	263.00
Freight fees	944 00
Proceeds of sale	7,095.00
Sale commission	192.40
Alberta Government grant	600 00
Dominion Government grant	325 00
Sundries	128 60
Overdraft	142 61
	\$9,844.61

Disbursements.

Freight	\$973.29
Office and grounds expense	288 07
Prizes	431 55
Printing and advertising	255 58
Proceeds of sale	7,095 00
Salaries	500 00
Overdraft from 1907	194 82
Directors' expenses	35.60
Auctioneer	90.00
Sundries	10.70
	\$9,844 61

Audited and found correct.

(Sgd.) FRANCIS R. EXHAM,
Auditor.

PROVINCIAL FAT STOCK SHOW.

I attach hereto a list of the prize winners at the fat stock show and sale, also a list of the winners in the dressed carcass and stock judging competitions. The total number of entries in the above classes for the year 1908 was 142.

Owing to the inability up to the present time of making arrangements to have the dressed carcasses on exhibition at Victoria Park, a large amount of the educational value of this competition has been lost. An effort will be made to have suitable accommodation provided for the dressed carcasses on the grounds for the 1909 fat stock show. The fat stock will be judged on Monday instead of Tuesday as heretofore, so that the animals entered for the dressed carcass competition can be slaughtered early in the week, and the carcasses will be ready for inspection before the show is over.

Following is a list of prize winners at the Fat Stock Show:

CLASS I.—CATTLE.

*Shorthorn Steer, three years and under four.
Cow or Heifer, three years old or over.*

1st	W. H. Maude.	Lacombe.
2nd	John Ramsay.	Priddis.
3rd	W. P. Williams.	Fort Saskatchewan.
4th	Jas. McK. Andrews.	Davisburg.

Shorthorn Steer or Heifer, two years old and under three.

1st	A. H. Bolton.	Gladys.
2nd	W. H. Maude.	Lacombe.

Shorthorn Steer or Heifer, under two years.

1st	John Ramsay.	Priddis.
2nd	H. C. Graham.	Kitscoty.

CLASS II.

*Hereford Steer, three years and under four.
Cow or Heifer, three years old or over.*

1st	S. M. Mace.	Pekisko.
2nd	Theo. Wagner.	Erskine.
3rd	P. F. Huntley.	Lacombe.
4th	S. M. Mace.	Pekisko.

Hereford Steer or Heifer, two years old and under three.

1st	James Tough.	Edmonton.
2nd	S. M. Mace.	Pekisko.
3rd	S. M. Mace.	Pekisko.

Hereford Steer or Heifer, under two years.

1st	S. M. Mace.	Pekisko.
2nd	S. M. Mace.	Pekisko.

CLASS III.

*Galloways and Polled Angus.—Steer, three years and under four. Cow or Heifer,
three years or over.*

1st	F. D. Adams.	Calgary.
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CLASS IV.—GRADE STEERS.

Three years old or under.

1st	W. E. Tees.	Tees.
2nd	J. Rion.	Davisburg.
3rd	H. W. Watkins.	Olds.

Two years old and under three.

1st	Bryce Wright.	De Winton.
2nd	Bryce Wright.	De Winton.
3rd	S. M. Mace.	Pekisko.
4th	S. R. English.	Lanuke.

CLASS V.—COW OR HEIFER.

Heifer, three years or over.

1st	S. R. English.	Lanuke.
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Heifer, one year old and under two.

1st W. H. Maude. Lacombe.

CLASS VI.—CARLOAD OF FAT CATTLE.

Dealers and Butchers Barred.

1st J. Rion Davisburg.
2nd Thos. Fletcher Calgary.

CLASS VII.—CHAMPIONSHIPS FOR CATTLE.

Bryce Wright. De Winton.
W. H. Maude. Lacombe. (Reserve)

CLASS VIII.—CATTLE.

Dressed Carcasses, Purebred or Grade Steer.

1st J. Rion. Davisburg.
2nd Bryce Wright. De Winton.
3rd S. M. Mace. Pekisko.

Purebred or Grade Cow or Heifer.

1st S. M. Mace Pekisko.
2nd W. H. Maude Lacombe.
3rd James Tough. Edmonton.

CLASS IX.—HERDMAN'S COMPETITION.

1st W. H. Maude. Lacombe.
2nd Jno. Bell.
3rd Mrs. C. W. McIntosh. Lacombe.

CLASS X.—JUDGING COMPETITION.

Beef Cattle.

1st R. J. Scott. Lacombe.
2nd E. Randal. Lacombe.
3rd Robt. Stewart. Innisfail.

CLASS XI.—SHEEP, MEDIUM WOOLS.

Ewe or Wether, shearling and over.

1st H. W. Watkins. Olds.
2nd H. W. Watkins. Olds.

Ewe or Wether, lamb.

1st H. W. Watkins. Olds.
2nd H. W. Watkins. Olds.

Ewe or Wether, shearling and over.

1st H. W. Watkins. Olds.
2nd H. W. Watkins. Olds.
3rd H. W. Watkins. Olds.
4th Dick Brown. Calgary.

DEPARTMENT OF AGRICULTURE

CLASS XII.—GRADES OR CROSSES.

Ewe or Wether, lamb.

1st	H. W. Watkins	Olds.
2nd	H. W. Watkins	Olds.
3rd	H. W. Watkins	Olds.

CLASS XIII.—CHAMPIONSHIP FOR SHEEP.

H. W. Watkins	Olds.
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CLASS XIV.—DRESSED CARCASSES.

Purebred or Grade.

1st	Dick Brown	Calgary.
2nd	H. W. Watkins	Olds.
3rd	H. W. Watkins	Olds.

Judging Competition.

1st	R. J. Scott	Lacombe.
2nd	W. T. MacClure	Innisfail.

CLASS XV.—SWINE.

Barrow or Sow Berkshires, six months and under twelve months.

1st	Lew Hutchinson	Duhamel.
2nd	Lew Hutchinson	Duhamel.
3rd	Lew Hutchinson	Duhamel.
4th	Lew Hutchinson	Duhamel.

CLASS XVIII.—GRADES.

Barrow and Sow, six months and under twelve months.

Fat Hog—

1st	R. N. Hett	Calgary.
2nd	R. N. Hett	Calgary.

Bacon Type --

1st	H. W. Watkins	Olds.
2nd	H. W. Watkins	Olds.

Barrow or Sow, under six months

1st	Lew Hutchinson	Duhamel.
2nd	Lew Hutchinson	Duhamel.
3rd	H. W. Watkins	Olds.
4th	Lew Hutchinson	Duhamel.

Champion for Swine.

W. H. Watkins.	Olds.
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CLASS XX.—DRESSED CARCASSES.

Purebred or Grade.

1st	H. W. Watkins	Olds.
2nd	H. W. Watkins	Olds.
3rd	Lew Hutchinson	Duhamel.

CLASS XXI.—JUDGING COMPETITION.

1st	R. J. Scott	Lacombe.
2nd	W. T. G. McClure.	Innisfail.

CLASS XXIII.—DRESSED POULTRY.

Best Two Turkeys.

1st Mrs. James ShouldiceCalgary.

Best Two Cockerels. Any variety having yellow legs.

1st W. E. TeesTees.
2nd Mrs. James ShouldiceCalgary.

Best Two Pullets. Any variety having yellow legs.

1st W. E. TeesTees.

Best Two Cockerels. Any variety having white legs.

No award.

Best Six Chickens, any variety, one breed.

1st W. E. TeesTees.
2nd H. W. WatkinsOlds.
3rd H. W. WatkinsOlds.

CLASS XXIV.—EGGS.

Best Dozen White Shelled.

1st Mrs. James ShouldiceCalgary.

Best Dozen Brown Shelled.

1st Miss J. TurnerCalgary.
2nd Lew HutchinsonDuhamel.
3rd Dick BrownCalgary.
4th W. E. TeesTees.

OFFICERS FOR ENSUING YEAR.

The election of officers resulted as follows:

Hon. President	John A. Turner, Calgary.
President	James Walters, Tees.
1st Vice-President	Wm. Sharp, Lacombe.
2nd Vice-President	J. Ramsay, Priddis.
Secretary and Managing Director	E. L. Richardson.

Breed Directors.

Shorthorns	Bryce Wright, De Winton.
Herefords	J. T. Parker, Lacombe.
Aberdeen Angus	Lew Hutchinson, Duhamel.
Galloways	E. D. Adams, Calgary.
Dairy Breeds	W. J. Tregillus, Calgary.

General Directors.

S. M. Mace, Pekisko.	Oswald Palmer, Lacombe.
W. P. Williams, Fort Saskatchewan.	R. K. Bennett, Midnapore.
Hy. Talbot, Lacombe.	

Ex-Officio Directors.

Hon. W. T. Finlay, Minister of Agriculture, Edmonton.
Dr. J. G. Rutherford, Dominion Live Stock Commissioner, Ottawa.
W. F. Stevens, Alberta Live Stock Commissioner, Edmonton.

Auditor.

F. R. Exham, Calgary.

I have the honour to be, Sir,
Your obedient servant,
E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX C.

ALBERTA SWINE BREEDERS' ASSOCIATION.

SIXTH ANNUAL REPORT.

HON. W. T. FINLAY,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the sixth annual report of the proceedings of the Alberta Swine Breeders' Association for the year 1908.

OFFICERS FOR 1908.

President	W. J. Tregillus, Calgary.
1st Vice-President	L. Hutchinson, Duhamel.
2nd Vice-President.	O. E. Brown, Calgary.

Directors.

Hy. Jenkins, Pincher Creek.	Bryce Wright, De Winton.
C. W. Peterson, Calgary.	J. A. Turner, Calgary.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
 Hon. W. T. Finlay, Minister of Agriculture, Edmonton.

Honourary Directors.

W. F. Stevens, Live Stock Commissioner for Alberta.
 C. W. Peterson, Calgary.

Secretary and Managing Director.

E. L. Richardson, Alexander Corner, Calgary, Alta.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

The annual meeting of the association was held in the city of Calgary on April 5th, 1909.

SECRETARY'S REPORT FOR THE YEAR 1908.

GENTLEMEN,—I beg to submit herewith the sixth annual report of the transactions of the Alberta Swine Breeders' Association, for the year 1908.

Alberta Provincial Fat Stock Show.

The annual fat stock show which was held in conjunction with the other live stock association events on May 19th to 22nd showed an increase of two entries over the previous year in the swine section, the number of entries being nineteen. The difficulty in connection with getting a larger number of entries appears to be the same as was experienced in the sheep classes, viz.: the trouble and expense of transportation, and in order to overcome this difficulty the Swine Breeders' Association has agreed to pay the cost of transportation in connection with the swine entries at the next fat stock show, and the result of this offer has been very satisfactory as there are fifty-seven entries for the forthcoming fat stock show, including two carload exhibits. This is the first time we have ever had a carload exhibit, and it is to be hoped that we will in the course of time be able to obtain a

larger number of carload entries so that the fat stock show will become a more important annual event for the sale of swine, as well as the other kinds of live stock on exhibition.

Breeders' Directory and Pamphlet.

It was brought to the attention of the undersigned that in many cases swine breeders, or those intending to go into the business, found it difficult to learn the addresses of Alberta breeders from whom they could purchase, and in order to get this information into convenient form it was decided to issue a directory of breeders, and, at the same time to publish a pamphlet dealing with the swine industry in Alberta, more particularly from a beginner's standpoint. Three or four prominent swine breeders were asked to prepare articles for the pamphlet, and Mr. W. F. Stevens, live stock commissioner for Alberta, and Mr. Lew Hutchinson, Duhamel, vice-president of the Alberta Swine Breeders' Association, complied, and fifteen hundred copies of a pamphlet containing their articles were issued. This pamphlet has been in such demand that at the present time there are only about twenty-five copies left, and I would recommend that a second edition of the pamphlet be issued during the next winter in which the swine industry might be gone into in greater detail than in the pamphlet already issued.

In the preparation of the directory an effort was made to find out about the number of herd usually kept, and the number for sale annually. As the size of the herds fluctuate very considerably it was difficult to make this information accurate, and I would suggest that the next directory contain only the list of breeders.

During the year the Alberta Government appointed a pork commission to inquire into the swine industry, and present recommendations as to the best method of assisting the swine industry in Alberta. This commission has made its report, and an effort is now being made to ascertain if the necessary supply of hogs can be obtained from the residents of the province to justify the establishment of a Government pork packing plant. It is hoped that the investigations of the commission will result in steps being taken which will very materially aid the swine industry of the province, and be the means of assisting to provide a profitable market where the fluctuations in price will not be so great as evidenced in the past.

Respectfully submitted,

F. L. RICHARDSON,
Secretary and Managing Director.

FINANCIAL STATEMENT, 1908.

Receipts.

Balance from 1907	\$225.96
Membership fees	63.00
Registration fees	30.99
Alberta Government grant	200.00
	\$519.95

Disbursements.

Office expense	\$ 29.25
Printing and advertising	107.40
Salaries	130.00
Sundries	10.70
Balance	242.60
	\$519.95

Audited and found correct.

(Sgd.) F. R. EXHAM,
Auditor.

OFFICERS FOR ENSUING YEAR.

The election of officers resulted as follows:

President	W. J. Tregillus, Calgary.
1st Vice-President	Lew Hutchinson, Duhamel.
2nd Vice-President	H. W. Watkins, Lacombe.

Directors.

H. Jenkins, Pincher Creek.	C. W. Peterson, Calgary.
Bryce Wright, De Winton.	O. E. Brown, Calgary.
J. A. Turner, Calgary.	J. Tees, Tees.

Honourary Directors.

C. W. Peterson, Calgary.
W. F. Stevens, Live Stock Commissioner, Calgary.

I have the honour to be, Sir,
Your obedient servant,
E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX D.

ALBERTA SHEEP BREEDERS' ASSOCIATION.

SEVENTH ANNUAL REPORT.

HON. W. T. FINLAY,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the seventh annual report of the proceedings of the Alberta Sheep Breeders' Association, for the year 1908.

OFFICERS FOR 1908.

President.....	Bryce Wright, De Winton.
1st Vice-President.....	O. E. Brown, Calgary.
2nd Vice-President.....	J. A. Turner, Calgary.

Directors.

James McCaig, Edmonton.	C. M. Smith, Lacombe.
W. A. Hamilton, Lethbridge.	G. A. Grant, Walsh.
Col. Walker, Calgary.	

Breed Directors.

Leicesters.....	Keys Cullen, Elbow River.
Shropshires.....	H. W. Watkins, Olds.
Merinoes.....	Hy. Holmes, Magrath.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
Hon. W. T. Finlay, Minister of Agriculture, Edmonton.

Honourary Directors.

W. F. Stevens, Live Stock Commissioner for Alberta.
C. W. Peterson, Calgary.

Secretary and Managing Director.

E. L. Richardson, Alexander Corner, Calgary, Alta.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

The annual meeting of the association was held in the City of Calgary on April 5th, 1909.

SECRETARY'S REPORT FOR 1908.

GENTLEMEN,—I beg to submit herewith the seventh annual report of the Alberta Sheep Breeders' Association, for the year 1908.

Alberta Provincial Fat Stock Show.

The annual fat stock show, held in conjunction with the pure bred cattle show and sale on May 19th to 22nd last, showed an increase of entries in the sheep sections over the entries of the previous year,—the number being nineteen. The entries for the past two years being as follows: In 1907, 12, and in 1908, 19.

The transportation expenses in the sheep classes appear to have been one of the difficulties in the way of securing increased entries, and it was therefore decided that the Sheep Breeders' Association would pay the transportation expenses on any sheep exhibits coming to the fat stock show. This arrangement has shown a marked result in connection with the entries for the forthcoming fat stock show to be held on April 5th to 9th, next, the entries in the sheep classes having increased to fifty, including one carload entry of twenty head.

Sheep Industry Pamphlet and Sheep Breeders' Directory.

It was brought to the attention of the undersigned that in many cases sheep breeders, or those intending to go into the business, found it difficult to learn the addresses of Alberta breeders from whom they could purchase, and in order to get this information into convenient form it was decided to issue a directory of breeders, and, at the same time, to publish a pamphlet dealing with the sheep industry in Alberta, more particularly from the beginner's standpoint. Three or four prominent sheep men were asked to prepare articles for the pamphlet, to which Mr. James McCaig, of Edmonton, and Mr. Bryce Wright, of De Winton, complied. Fifteen hundred copies of the pamphlet containing their articles were issued. This pamphlet has been in such demand that at the present time there are only about twenty-five copies left, and I would recommend that a second edition of the pamphlet be issued during the next winter, in which the sheep industry might be gone into in greater detail than in the pamphlet already issued.

In the preparation of the directory an effort was made to find out about the number of flock usually kept, and the number for sale annually. As the size of the flocks fluctuate very considerably, it was difficult to make this information accurate, and I would suggest that the next directory contain only the list of breeders.

Financial Statement.

The financial statement which is attached shows a balance on hand of \$208.60, which is a very satisfactory showing considering the number of years that the financial statement showed a deficit.

The thanks of the association are due to the Provincial Department of Agriculture for the annual grant of four hundred dollars, and to the Hon. W. T. Finlay, Minister of Agriculture, and the members of his staff, who are always glad to render any assistance in their power to the Alberta live stock associations.

E. L. RICHARDSON,
Secretary and Managing Director.

FINANCIAL STATEMENT, OCTOBER 22, 1908.

Receipts.

Grant	\$400.00
Balance from 1907.....	115.97
Membership fees.....	20.00
	\$535.97

Disbursements.

Postage, etc	\$ 29.25
Printing.	107.40
Salary of secretary and stenographer.....	180.00
Sundries	10.70
Balance in bank.	208.60
	\$535.97

Audited and found correct.

(Sgd.) F. R. EXHAM,
Auditor

OFFICERS FOR ENSUING YEAR.

The election of officers resulted as follows:

President	Bryce Wright, De Winton.
1st Vice-President	O. E. Brown, Calgary.
2nd Vice-President	J. A. Turner, Calgary.
Secretary and Managing Director	E. L. Richardson.

General Directors.

James McCaig, Edmonton.	W. A. Hamilton, Lethbridge.
C. M. Smith, Lacombe.	G. A. Grant, Walsh.
Col. Walker, Calgary.	

Breed Directors.

Shropshires	H. W. Watkins, Olds.
Leicesters	Keys Cullen, Elbow River.
Merinoes	Hy. Holmes, Magrath.

Auditor.

F. R. Exham, Deputy Registrar of Land Titles, Calgary.

I have the honour to be, Sir,
Your obedient servant,
E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX E.

THIRD ANNUAL REPORT OF THE ALBERTA NATURAL HISTORY SOCIETY

HON. W. T. FINLAY,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the third annual report of the proceedings of the Alberta Natural History Society, for the year 1908.

The annual meeting of the society was held in the Council Chambers, Red Deer, November 25th, 1908, Dr. George, president, in the chair.

The minutes of the previous annual meeting were read and adopted as read.

The reading of communications followed, consisting of letters from several members expressing regret at their inability to be present, and wishing the society a very successful meeting.

The correspondence was ordered filed.

The president then gave his annual address as follows:

President's Address.

LADIES AND GENTLEMEN,—It gives me great pleasure to welcome you here to-night, and to speak a few words about the progress of the Alberta Natural History Society, which now has completed its third year of existence. I am not going to trouble you with a long address but there are some points for congratulation and also many points for reformation in the way in which our society is conducted in order to increase both its usefulness and prosperity. In the first place we have

to heartily thank the Government at Edmonton for the grant of one hundred dollars that we received this year. Now this grant not only gives us a little pecuniary aid but also it gives us official recognition. It was a matter of the greatest regret that our reports for 1906 and 1907 through an oversight were not published in the annual report of the Department of Agriculture, as I am convinced that if these two reports had been published our society would be better known, and would have members and branches in all parts of the province.

According to our constitution we should have held this meeting at Edmonton, but I found I could not get a quorum to meet there, and also that Edmonton has started a natural history society on its own account. I also wish to say that I wrote to the secretary of the Edmonton society asking for information as to what dates their July and August meetings were held in order that I could go up and attend a meeting and bring our society before them that they might join us and form a branch for that district, but as I received no reply whatever I concluded that we were not wanted. As present we have only two branches, Innisfail and Red Deer, and our Red Deer branch has increased in membership and enjoyed many monthly meetings at which valuable papers have been read.

We have a good membership and we put in good reports for 1906 and 1907, but as I previously mentioned they were left out of the provincial report, but this year I expect our report will be printed. Owing to oversight valuable papers written for our members and written for publication have been lost, but I hope we will keep hammering away and not get disheartened. Our idea is to get a thorough knowledge of the natural history of our great province and then to disseminate this knowledge especially to the farmers, in order to enable them to distinguish friend from foe and thus save the one and destroy the other. I also wish to form a branch in each electoral division of the province, so that in time each district will have its own local museum and library. As you very well know each district is somewhat different in its birds, animals, insects and vegetation, and up to now only a very general idea of the interesting objects in this great country is known.

I have several notes of interest to lay before you. One is the increasing number of the eastern Blue Jay. One was shot at Leduc and sent to me by a friend. The very next day Mr. Cassells of Red Deer shot one and both have been mounted. Both Captain Keast and Mr. Bechervaise, of Horn Hill, informed me that they had seen these birds for the last few years, but until I saw the two specimens this year I always thought it was Steller's Jay they had seen. Another note is that a white or albino porcupine was taken south of Innisfail and it is still alive in the hands of its captor. Beavers are on the increase and are reported as doing damage in some places.

Now as to points of reformation in the conduct of our society. Up to now we have had a president and vice-president, secretary-treasurer and an executive committee of six and the presidents of the two branches. The difficulty lies in doing business with the executive committee. As all these gentlemen live many miles away from one another and as all business is done by mail, it takes a long time to get answers. Because of this it is hard to get a meeting of the executive, indeed the whole of them have never yet met. I think we must devise some other way of doing business and I will be glad for suggestions to-day from any member.

There is one point I would like to impress on each member. It is this, that all members endeavour to encourage children to collect and bring in specimens. Teach them to do it in a scientific way. Try also to get farmers to come and ask us questions so that we may not only impart what knowledge we possess but also learn more ourselves. I also would like to see observers in every district taking notes the year through of what they personally see, especially the dates of arrival and departure of birds. I would like to see in the chief town of all our electoral districts a museum devoted to local birds, animals, plants and indeed all objects of nature captured in that district.

Another point to be discussed is the membership fee. Many of us think fifty cents per annum enough and want this put to the vote of this meeting.

I am sure the society misses very much the presence and counsel of our esteemed founder, Mr. Percy Gregson, of Blackfalds, who is now in England and whom I hope will be able later to return to the province. Also Mr. A. Mitchell who has joined the sister province. We are also sorry that Mr. Janson and Mr. Harcourt cannot be here to-day.

In closing I must thank the society for the honour they have done me in electing me to the office of president. I assure you it has been and is a great pleasure to me to see the society prosper and become an influence for good in the province.

The next order of business is the reports from the various branches.

Report of Innisfail Branch.

The president's address was followed by the report from the president of the Innisfail branch. He reported considerable individual work, and said that he

had demonstrated before the pupils of the public school, Innisfail, the proper method of collecting, pressing and mounting plants.

Report of the Red Deer Branch.

The members of the Red Deer branch of the Alberta Natural History Society have much pleasure in presenting their annual report for the year ending October 31st, of the good work done by the society, and the interest taken by the members, especially Dr. George whose kindness and readiness to assist at all times has been an inspiration. The first meeting of the present year was held at Dr. George's the 21st of January.

The following new members were added during the year: Mrs. F. W. Galbraith, H. G. Munro, J. T. Moore, M.P.P., Capt. Cottingham, Principal W. J. McLean, Rev. C. H. Huestis, M.A., Mrs. Wanless, Mrs. Root, Rev. C. W. G. Moore, Mrs. R. L. Gaetz and Mrs. G. W. Green.

The executive, Dr. George, convener, were authorized to draw up a constitution for this branch. Later in the year 100 constitutions were printed and distributed among the members.

Dr. and Mrs. George invited the members to visit the museum, and a profitable and instructive evening was spent.

The second meeting of the society was held at Dr. George's museum, February 18th. At this meeting Dr. George gave an interesting talk on woodpeckers, giving their difference, also different varieties. Those present enjoyed a treat.

The third meeting of the society was held March 17th at Mrs. Tallman's. At this meeting the society decided to take a trip down the Red Deer River to visit the canyon, and other interesting points. Mr. Munro was appointed to give a talk on his observations regarding this trip. Miss Cole gave an interesting and useful talk on birds' nests for which she received a hearty vote of thanks.

The fourth meeting was held at Miss Cole's on the 28th of April. At this meeting Mr. Munro gave an interesting word-picture of beautiful scenery in connection with the excursion down the river. Mrs. Tallman gave an interesting talk on the formation of the different kinds of rock noticed on the way. Mrs. Wanless was appointed to prepare a paper at the next meeting. Subject to be left to herself.

The secretary was instructed to write to the town papers stating that the society would be pleased to identify any specimens of weeds or other plants which farmers might bring to it for identification.

The last meeting of the executive was held at Mrs. Cassell's on the 16th of June. Rev. Moore read a paper full of humour, on his trip across the Atlantic, and gave an interesting talk on the frogs, snakes, and gophers of Alberta. Several took part in the discussion.

There were sixteen members last year, Mrs. Dr. Donovan and Canon Hinchcliffe having moved away. Ten new members were added since last annual meeting, making twenty-four members for this branch.

CAPTAIN KEAST,

President Red Deer Branch.

JOHN MCVICAR,

Secretary-Treasurer.

The personnel of the executive was then discussed with the result that it was the consensus of opinion that the members of the committee should be somewhat centrally located for convenience of meetings. It was moved by Messrs. Geary and Fiske that the executive committee consist of seven members besides the other officers, six of whom should reside within forty miles of the president's place of residence. Carried.

It was decided that the initiatory membership fee be \$1.00, one-half of which should go to the branch to which the member belongs, and thereafter the yearly fee be 50c, all of which should go to the branch.

Dr. George referred to the annual reports and said that the only means of keeping the membership, scattered as it was, in touch with the society was by having the proceedings of the annual meetings printed so that the members may thus be kept informed of the work of the society. He regretted that the reports of 1906 and 1907 had not been printed. The following motion was made by Mr. Geary and Rev. C. H. Huestis: "That the Deputy Minister of Agriculture be communicated with, asking him to return the reports of the Alberta Natural History Society, if not printed, that they may be copied so that the continuity of the history of the society may be preserved." Carried.

Election of Officers.

The election of officers was then proceeded with and resulted as follows:

Hon. President, Hon. W. T. Finlay, Minister of Agriculture, Edmonton.

Hon. Vice-President, Geo. Harcourt, Deputy Minister of Agriculture, Edmonton.

President . . .	Dr. Henry George, Red Deer.
Vice-Presidents	R. E. Fiske, Hillsdown. Mrs. W. Geary, Innisfail.
Secretary-Treasurer	Mrs. F. H. Tallman, Red Deer.
Assistant Secretary	Miss Mina Cole, Red Deer.

Executive Committee.

Rev. C. H. Huestis, Red Deer.	W. J. McLean, Red River.
J. Jenson, Innisfail.	N. B. Sanson, Banff.
F. H. Wooley-Dod, Millarville.	Mrs. Dr. George, Red Deer.
Mrs. Wanless, Red Deer.	

The president said that the expenditure of the provincial grant had been brought before the executive committee and it had been decided to expend it in forming branches of the society in each town, and to make a grant to each such branch for the purpose of enabling them to procure a nucleus of a library on natural history. Ten dollars was granted to each branch now in existence for the above purpose.

The president also explained that, as it had been impossible to get a quorum of the officers to go to Edmonton to attend the annual meeting, he had, with the acquiescence of the executive committee decided to hold the meeting in Red Deer.

It was thought advisable to leave the choice of the place of the next annual meeting to the executive committee and a motion was made to that effect by Mrs. George and Mrs. W. Geary, and carried unanimously.

Moved by Mrs. George and W. J. McLean, that a vote of thanks be tendered Miss Bower for assisting the secretary during the year. Carried.

Moved by Rev. C. H. Huestis and W. J. McLean, that the secretary be instructed to convey the thanks of the members to the mayor for the use of the fire hall for the annual meeting. Carried.

The convention then adjourned. After adjournment the members were served with a sumptuous banquet at the English Cafe, and a very pleasant hour was spent in discussing topics bearing on the work of the society.

LIST OF MEMBERS.

Allen, Rev. W. F., Innisfail.	Hinchcliffe, Canon, M.A., Chilliwick.
Allen, Mrs., Innisfail.	Hill, H., Esq., Red Deer.
Archer, F. W., Esq., Innisfail.	Jenson, James, Esq., Innisfail.
Boyce, B. F. W., B.A., Red Deer.	Jenson, Mrs. James, Innisfail.
Bredin, F., Esq., M.P.P., Edmonton.	Jenson, T. S., Esq., Innisfail.
Cushing, The Hon. W. H., Edmonton.	Keast, A. E., Esq., Innisfail.
Bulyea, The Hon. G. H. V., Lieutenant Governor, Edmonton.	Keast, Capt. J. W., Red Deer.
Chisholme, B. J., Esq., Crossfield.	Lumb, F. V., Esq., Nanton.
Carswell, J. A., Esq., Red Deer.	Mackay, W. C., Esq., Calgary.
Cole, Miss Mina, Red Deer.	Malcolm, H. A., Esq., Innisfail.
Dippie, F., Esq., Calgary.	Malcolm, C., Esq., Innisfail.
DeVeber, The Hon. D. G., Senator, M.D., Lethbridge.	Members, Dr. G. G., M.D., Innisfail.
Donovan, Mrs. E., M.D., Victoria.	Monro, Esq., Edmonton.
Fream, S. P., Esq., Innisfail.	Moore, J. C., Esq., Red Deer.
Fream, E. J., Esq., Innisfail.	Moore, John T., M.P.P., Red Deer.
Fulmer, Mrs. L. C., Red Deer.	Nowers, E. B., Esq., Innisfail.
Fiske, R. E., Esq., Red Deer.	Oldham, F. M., Esq., Innisfail.
Garrett, C., Esq., Calgary.	Onsum, T. G., Esq., Innisfail.
Geary, Wm., Esq., Innisfail.	Oliver, The Hon. Frank, Minister of the Interior, Ottawa.
George, Dr. Hy. M.R.C.S., Red Deer.	Playle, Mrs., Innisfail.
George, Mrs. (Dr.), Red Deer.	Robinson, F., Esq., Stauffer.
George, F. S., Esq., Red Deer.	Rutherford, The Hon. A. C., Premier, Edmonton.
Grant, J. A., Esq., Red Deer.	Raine, W., Esq., Toronto.
Goodfield, The Rev. B., B.A., Red Deer.	Riley, E. H., Esq., M.P.P., Edmonton.
Grieve, E. McK., Esq., Innisfail.	Sanson, N. B., Esq., Banff.
Gregson, P., Esq., Blackfalds.	Simpson, John A., Esq., M.P.P., Innisfail.
Galbraith, F. W., Esq., Red Deer.	Simpson, Miss A., Innisfail.
Harcourt, Geo., Esq., B.S.A., Deputy Minister of Agriculture, Edmonton	Selby-Walker, Esq., Calgary.
Harry, L. C., Esq., Innisfail.	Sykes, The Rev. W. H., B.A., Camrose.
Hudson, A., Esq., Millarville.	Saunders, B. J., Esq., D.L.S., B.A., Edmonton.

Thompson, Evan, Esq., Red Lodge.
Tallman, Mrs. F. H., Red Deer.
Warden, W. H., Esq., Pine Lake.
Westland, G. R., Esq., Innisfail.
Wyndham, Lt. Col., Gleichen.
Wolley-Dod, F. H., Esq., Millarville.
Wilton, Ed., Esq., Red Deer.
McVicar, John, Esq., Red Deer.
Munroe, H. G., Esq., Red Deer.
McLean, W. J., Esq., Red Deer.

Cottingham, Capt., Red Deer.
Mitchell, W. A., Esq., Indian Head.
Root, Mrs. G. F., Erskine.
Galbraith, Mrs. F. W., Red Deer.
Gaetz, Mrs. R. L., Red Deer.
Heustis, Rev. C. H., M.A., Red Deer.
Mrs. Wanless, Red Deer.
Moore, Rev. C. W. G., Red Deer.
Greene, Mrs. G. W., Red Deer.
Cassels, Mrs. W., Red Deer.

I have the honour to be, Sir,

Your obedient Servant,

MRS. F. H. TALLMAN.

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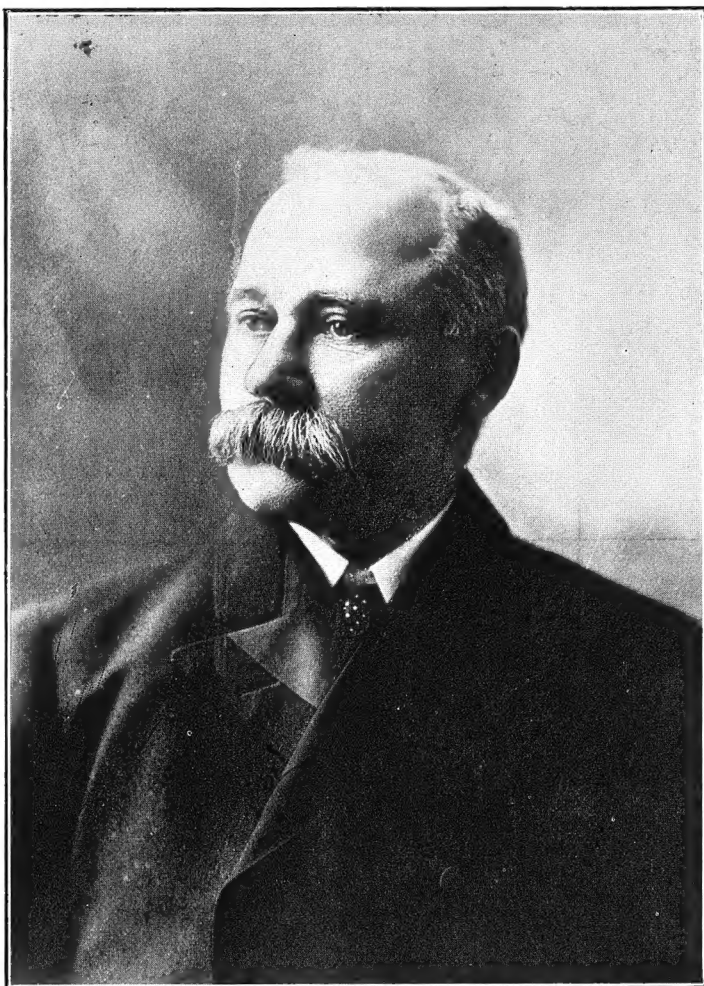
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HON. W. T. FINLAY, FIRST MINISTER OF AGRICULTURE,
RESIGNED OCTOBER 31ST, 1909.